INTRAINDUSTRY INFORMATION TRANSFERS: AN ANALYSIS OF CONFIRMATORY AND CONTRADICTORY EARNINGS NEWS

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Tharindra Subhashana Ranasinghe

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Intraindustry Information Transfers: An Analysis of Confirmatory and Contradictory Earnings News

ABSTRACT

Prior research on intraindustry information transfers finds that earnings announcements are information events not only for the announcing firm but also for others in the industry. This paper adds to this literature by investigating whether the informativeness of a firm's earnings surprise is conditional on the nature of the earnings news previously announced by other firms in the industry and whether the ability of current earnings to signal future firm performance (earnings persistence) differ along this dimension.

I define a firm's earnings surprise as "confirmatory" if its sign is same as that of the majority of industry members that announced their earnings previously and as "contradictory" otherwise. I hypothesize that confirmatory earnings surprises are more informative with respect to how industry-wide trends affect firm performance while contradictory earnings surprises can be more revealing of a firm's innate strengths and weaknesses. Hence the valuation implications of earnings news can differ depending on whether they are confirmatory or contradictory.

I find that the market assigns a confirmation premium to nonnegative earnings surprises that are confirmatory but that no such effect emerges for confirmatory earnings with negative surprises. Moreover, in comparison to value firms, growth firms exhibit a larger confirmation premium. Further analysis also reveals that confirmatory earnings with nonnegative (negative) surprises are more (less) persistent than earnings with contradictory surprises. Although the presence of a confirmation premium for confirmatory nonnegative earnings surprises appears to be a rational response to their greater persistence, the market does not seem to recognize the lower persistence of confirmatory negative earnings surprises. A hedge portfolio strategy of simultaneously buying and holding firms with confirmatory negative earnings surprises while short selling firms with contradictory negative earnings surprises generates an annual abnormal return of approximately 3 percent.

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CHAPTER 1: INTRODUCTION

The role of accounting earnings in the pricing of a firm has been firmly established and widely researched since the seminal work of Ball and Brown (1968). It has now been well established that in pricing a firm, the market takes into account not only the firm's own earnings information but also the information contained in the earnings announcements of other firms in the industry (Foster 1981; Lang and Lundholm 1996). Such intraindustry information transfers are value relevant because of industry-wide commonalities and/or because they inform the market of competitive shifts within the industry. In particular, a preponderance of evidence suggests that intraindustry information transfers are "positive" on average, meaning that good (bad) news for an announcing firm is good (bad) news for non-announcing industry members (Foster 1981; Clinch and Sinclair 1987: Han et al. 1989; Freeman and Tse 1992a).

While there is empirical evidence regarding other pieces of information such as dividend news, revenue information, and nonfinancial performance indicators acting as complements to earnings in its valuation role, little is known about whether the nature and magnitude of the market reaction to a firm's own earnings announcement is conditional on the previously announced earnings news of industry peers.

Not all firms in an industry announce their earnings at the same time. As some firms make earnings announcements ahead of others, the market is likely to revise its expectations about firms that are yet to announce to the extent that the early

announcements are informative about the late announcing firms as well. Indeed, anecdotal evidence suggests that the nature of the information revealed by industry member earnings announcements affect how the market may view subsequent earnings releases. For example, in a recent *Wall Street Journal* article on the strong earnings of J.P. Morgan Chase & Co. for the second quarter of 2011, Fitzpatrick (2011) makes the following comment:

> J.P. Morgan Chase & Co. raised the bar for its rivals by posting strong quarterly results as both profits and revenue soared on the strength of its investment bank… The performance puts pressure on Citigroup Inc., which reports Friday, as well as Wall Street heavyweights Goldman Sachs Group Inc. and Morgan Stanley.

The sequential nature of this information flow raises important questions about the formation of expectations in the market place. For instance, is it possible to characterize the market reaction to a firm's earnings announcement when the news *confirms* rather than *contradicts* the news from prior earnings announcements by industry peers? If company A announces first and exceeds market expectations, how would the market react to company B's subsequent announcement if it fails to meet expectations (contradictory) or exceeds expectations (confirmatory)? Do such confirmatory earnings signals have different implications for a firm's future performance vis-à-vis contradictory signals?

Motivated by these questions, in this dissertation, I explore the valuation implications of the sequential flow of information on a firm's earnings performance that is associated with intraindustry information transfers. Specifically, I investigate the market response to a firm's earnings announcement conditional on the nature of previously announced industry member earnings. In prior literature, Lang and Lundholm

(1996) investigate the incremental value relevance of industry member earnings news, when the firm's own earnings is known. Amir and Lev (1996) find that the value relevance of cellular companies' earnings increases when earnings news is combined with other industry specific performance measures. Kane et al (1984) find that the market takes the corroborative nature of both earnings and dividends information into account when pricing stocks, while Freeman and Tse (1989) find a confirmatory discount when current period earnings news confirms that of previous period. In this dissertation, I build on this body of work to examine how the market reacts to a firm's earnings announcement depending on whether the news in the announcement confirms/contradicts the news in prior earnings announcements made by industry peers. To my knowledge, there is no prior study in the intraindustry information literature that examines the impact of sequential flow of information on the market response to earnings surprises.

I posit that within an efficient market, the sequential nature of intraindustry information transfers affects the market's assessment of a firm's earnings news because of two factors: (i) confirmatory/contradictory effects made apparent by the sequentiality, and (ii) deviation of the market's true expectations from the analysts' forecasts that are often used to proxy for market expectations.

Turning first to confirmatory/contradictory effects, I hypothesize that the valuation implications of earnings surprises that confirm the beliefs created by intraindustry information transfers from previously announcing industry members (confirmatory earnings) differ from those that contradict such beliefs (contradictory earnings). Earnings news potentially contains information on systematic factors that would affect all members of an industry (industry-wide commonalities), idiosyncratic

firm specific factors, and random error. As earnings reports emerge from an industry, market participants begin to form stronger inferences on industry-wide commonalities (i.e. idiosyncratic factors and random error will get cancelled out). As a result, if a firm's earnings news confirms the previously announced news of industry members, the market may perceive such confirmatory earnings as having a lower noise-to-signal ratio with respect to the firm's future prospects, thereby warranting a larger price reaction.[1] I term this assumption *the performance alignment hypothesis* and posit that it will lead to the presence of a "confirmation premium" in the market's response to a firm's earnings news.[2]

Conversely, it might be argued that contradictory earnings news could be more value relevant because by filtering out common industry factors, it can facilitate a more accurate assessment of a firm's innate strengths and weaknesses. In other words, earnings surprises that contradict those of other industry members would enable a firm to "stand out from the crowd," either in a positive or a negative light. This alternative argument, which I label *the performance differentiation hypothesis*, thus postulates the presence of a "confirmation discount."

The sequential nature of intraindustry transfers can also result in analysts' forecasts being inadequate proxies for the market's true expectations just before the earnings announcement. Although the market updates its expectations continuously as news arrives, analysts' forecasts are discrete, which, to the extent that intraindustry information transfers are nonrandom, can cause them to deviate systematically from true

[1] In other words, a contradictory earnings surprise could be viewed as an "outlier" with lower information content with respect to future performance.
[2] Throughout this dissertation, the term "confirmation premium" ("confirmation discount") is used to denote a higher (lower) incremental market response to confirmatory than to contradictory earnings news.

market expectations. Given that analysts' estimates are widely used by researchers to proxy for market expectations of earnings, systematic differences between these estimates and true market expectations are problematic for studies that focus on measuring earnings surprises in short-window announcement period returns (see, e.g., Wilson 1987; Ball and Kothari 1991; Vincent1999). In essence, these differences could cause erroneous inferences about the nature and magnitude of earnings response coefficients. It is therefore imperative for researchers to control for these divergences in making appropriate inferences about the market reaction to earnings news. In this dissertation, building on prior literature, I develop a simple model to address this issue.

Another question raised by the possibility of confirmation premiums or discounts (to the extent that these are not affected by the aforementioned systematic divergence between analyst forecasts and true market expectations) is whether the extent of current earnings' ability to signal future performance does *indeed* differ depending on whether news is confirmatory or contradictory with respect to prior earnings announcements by industry peers. For instance, if a firm's earnings news is confirmatory and the market response reflects a confirmation premium, does the earnings news have superior ability in predicting future firm performance? To address this aspect, I hypothesize that earnings persistence will differ across confirmatory and contradictory earnings.

Consistent with my first set of hypotheses, I find that the market reaction to a firm's earnings surprise is conditional on whether the surprise confirms or contradicts previous earnings announcements by industry peers. Specifically, I find support for the *performance alignment hypothesis* that the market reaction to a firm's earnings surprise is stronger when the surprise confirms the previously announced earnings news of industry

members. This presence of a confirmation premium supports the notion that the market perceives confirmatory earnings surprises as less noisy. The magnitude of this premium is economically meaningful, with a lower bound of 16 percent above the capitalization rate of contradictory earnings surprises. Interestingly, however, this "confirmation premium" is present only when earnings surprises are nonnegative. No evidence of a confirmation premium/discount is found for firms with negative earnings surprises. These results indicate that the market does indeed consider confirmatory earnings to be more value relevant than contradictory earnings—but only when they are nonnegative. These findings hold even when I control for the potential divergence between analysts' forecasts and true earnings expectations of the market, suggesting that the confirmation premium for nonnegative earnings surprises is not an artifact of systematic differences between these two factors.

Additional tests reveal that in comparison to value firms the confirmation premium found for firms with nonnegative earnings surprises is greater in magnitude for growth firms. This finding is consistent with the notion that how industry-wide trends affect firm performance is more important in valuing growth firms. Further tests also indicate that the findings remain robust regardless of whether previously announced industry leaders are included or not in determining the confirmatory nature of a firm's earnings surprise.

With respect to the second set of hypotheses, I find strong and consistent evidence that earnings with nonnegative confirmatory surprises are indeed more persistent than those with contradictory surprises. This greater persistence of confirmatory earnings lasts up to eight subsequent quarters. Hence, the existence of a confirmation premium appears

to reflect the market's pricing of the greater persistence of confirmatory earnings. However, the results also indicate that earnings with negative confirmatory surprises are less persistent than those with contradictory surprises. Given that earlier findings failed to provide evidence of the market distinguishing confirmatory from contradictory earnings with respect to negative surprises, this finding points to the possibility that the market may be overreacting to negative earnings news that is confirmatory. Supplemental analysis indicates this indeed to be the case. A hedge portfolio formed by buying and holding firms with confirmatory negative earnings surprises and short selling firms with contradictory negative earnings surprises are shown to generate abnormal annual (2 year) returns of 3 percent (4.7 percent).

Overall, the findings of this dissertation show how the sequential nature of earnings announcements within industries and the ensuing intraindustry information transfers enhance the value relevance of a firm's earnings news. Whether this news confirms or contradicts the information conveyed through industry members' prior announcements appears to be an important determinant of market response to the news. Both the confirmatory nature of the earnings surprise and its sign (i.e., nonnegative vs. negative) also appear to markedly affect the ability of current period earnings to signal future firm performance. These findings, because they augment our understanding of the informativeness of earnings signals and how the capital market responds to them, should be of particular interest to both capital markets researchers and market participants.

The remainder of this dissertation is organized as follows. Chapter 2 discusses the related literature and Chapter 3 develops the hypotheses for this study. Chapter 4 outlines the sample selection and empirical design, after which Chapter 5 presents the main

findings. Chapter 6 presents the results for supplemental analysis. Chapter 7 concludes the study and suggests some future research directions.

CHAPTER 2: LITERATURE REVIEW

2.1 The Role of Accounting Earnings in Security Valuation

The role of financial statements in security valuation has been well established among practitioners and the academia alike. While financial statements are not intended to directly report the value of an entity, they are intended to be a useful tool in the valuation process. For instance, Chapter 1 of Financial Accounting Standard Board's Conceptual Framework (2010) states that:

> *"The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders, and other creditors in making decisions about providing resources to the entity."* (OB2)

> *"General purpose financial reports are not designed to show the value of a reporting entity; but they provide information to help existing and potential investors, lenders, and other creditors to estimate the value of the reporting entity."* (OB7)

Among various information that incorporate financial statements, accounting earnings is clearly regarded as the single most important measure for valuation purposes. Usefulness of accounting earnings in security valuations (and hence the relationship between stock prices and accounting earnings) has been recognized even before large

scale empirical studies on the matter became available. For example, Bedford (1957) states:

> *"Investors use accountants' reported income as an index, for when a past income increases, investors interpret it to mean that the index of enterprise success has gone up. They therefore buy the stock at a higher price...."* (p. 60)

The notion of usefulness of accounting earnings in securities valuations has gained strong academic acceptance following the seminal work of Ball and Brown (1968) who reported convincing empirical support for a positive relationship between the changes in stock prices and accounting earnings[3]. The basic relationship between stock returns and unexpected earnings uncovered by Ball and Brown (1968) has since been replicated with numerous variations of research settings and variable measurements (see Watts and Zimmerman 1986, Chapter 3 for a discussion).

The close link between accounting earnings and stock prices has also validated the inclusion accounting earnings as a primary input in numerous popularly used valuation models (see, e.g., Fama and Miller 1972, Chapter 2; Ohlson 1995; Feltham and Ohlson 1995). All these models essentially assume current period earnings to signal a firm's future cash flows.

[3] It has to be noted that Ball and Brown (1968) was not the first study to empirically document this price-earnings relationship. For example see, Ashley (1962) and Benston (1967)

2.2 Intraindustry Information Transfers

The literature on intraindustry information transfers extends the notion of valuation implications of accounting earnings and finds that earnings information is value relevant not only to the announcing firm, but other nonannouncing firms in the industry as well.[4]

Conceptually, intraindustry information transfers stem from two sources. First, a firm's news announcement can reveal important information about systematic industry-wide factors that affect all firms in the same industry (industry-wide commonalities) such as industry growth and changes in demand patterns, changes in input and output prices, impact of regulatory changes etc. Second, the firm-specific idiosyncratic information contained in earnings announcements, by revealing competitive shifts within the industry, can have valuation implications for industry peers. Therefore, while industry-wide commonalities point toward positive intraindustry information transfers (i.e., good (bad) news for the announcing firm is good (bad) news for non-announcing industry members), the possibility of competitive shifts suggests that intraindustry information transfers can also be negative (i.e., good (bad) news for the announcing firm is bad (good) news for non-announcing industry members).

[4] Earnings announcements are not the only information event investigated in the intraindustry information transfer literature. Other information events that are shown to result in intraindustry information transfers include dividend change announcements (Laux, Starks and Yoon 1998), bankruptcy announcements (Lang and Stulz 1992; Ferris et al 1997), stock repurchases (Erwin and Miller 1988), accounting restatements (Gleason et al 2008), and nuclear accidents (Bowen et al 1983). Nevertheless, announcements of earnings and management earnings forecasts remain the most widely studied information events.

2.2.1 The Early Evidence

In his pioneering paper, Foster (1981) analyzes 75 earnings announcements from 10 industries (4-digit SIC code) and finds the announcing period abnormal return of the announcing firm and nonannouncing firms of the same industry to be positively correlated. Foster (1981) also finds that the magnitude of this positive information transfer is more significant for firms with a greater percentage of their revenue stemming from the same line of business as the announcing firm. Even though Foster (1981) also hypothesizes that due to information transfers, the information content of late announcing firms' earnings should be lower than that of early announcers' earnings, he fails to find any evidence in support of this and it appears that information content of late earnings announcements is not diminished by the information transfers that take place due to early earnings announcements. In contrast, Clinch and Sinclair (1987) find evidence consistent with the notion that the magnitude of market reaction to late announcers' earnings is smaller than that for early announcers. It should be note that both Foster (1981) and Clinch and Sinclair (1987) measure the magnitude of market reaction surrounding the earnings announcement, but do not attempt to measure "unexpected earnings" through an expectations model. Hence it is impossible to ascertain whether any observed difference between the market reaction to early announcers' and later announcers' earnings is due to differences in the magnitude of earnings surprise or the market's differential response to a unit of earnings surprise.

While early studies of Foster (1981) and Clinch and Sinclair (1987) use the announcing firm's abnormal returns as the proxy for news component of the earnings release, subsequent researchers have raised the concern that this approach leads to the

overrejection of the null in favor of information transfers due to positive cross-sectional covariation in stock returns (Han and Wild 1990; Frost 1995). It has since become standard practice to use unexpected earnings (i.e., the difference between actual and analysts' forecast of earnings) as the measure of new information.

Baginski (1987) extends the work of Foster (1981) to the realm of management earnings forecasts. Using 57 management forecasts from 45 4-digit SIC code industries, Baginski (1987) finds management earnings forecasts to be associated with positive intraindustry information transfers. These finds are later corroborated by Han et al (1989). Han et al (1989) also produces an important additional insight with respect to the model used to capture abnormal returns and the source of intraindustry information transfers. While the literature generally employs the market model to capture abnormal returns, Han et al (1989) show that intraindustry information transfers are no longer apparent when a two factor model that also includes industry returns as an additional variable is used. This finding highlights that intraindustry information transfers are primarily driven by industry-wide commonalities as opposed to competitive shifts.

2.2.2 Determinants of the Information Transfer Effect

While industry-wide commonalities and competitive shifts should result in intraindustry information transfers are that positive and negative respectively, a number of papers investigate the specific factors that determine the magnitude and the sign of these intraindustry information transfer effects. Based on the conjecture that information transfers and voluntary disclosures are substitutes, Pownall and Waymire (1989) hypothesize that firms issuing management earnings forecasts should experience

information transfer effects of lower magnitude when other industry members report their earnings. Their results weakly support this substitution hypothesis.

Pyo and Lustgarten (1990) develop and analytically test a model predicting that the direction and magnitude of intraindustry information transfers depend on the sign and magnitude of the announcing and nonannouncing firms' earnings covariance. The direction and magnitude of intraindustry information transfers are impacted by the degree to which products of industry members are substitute or complement as well as factors such as industry concentration, size, national/regional markets, and growth. Pyo and Lustgarten (1990) reason that the impact of these factors on intraindustry information transfers are reflected in the pairwise earnings covariance between the announcing firm and nonannouncing firms. Moreover, information transfers are predicted to be stronger when the announcing firms' earnings is less noisy. Consistent with these rather intuitive predictions, Pyo and Lustgarten (1990) show that observed information transfer effects are stronger when the regression models include the ratio of earnings covariance (between the announcer and the nonannouncer) to earnings variance (of the announcer) as an independent variable.

Joh and Lee (1992) argue that in an oligopoly under Cournot competition intraindustry information transfers relating to revenue news are positive while those that are driven by cost information are negative. A critical assumption of this argument is that industry-wide information with respect to costs are already communicated through mass media and hence any cost information contained in a firm's earnings report is primarily firm specific. However Joh and Lee (1992) fail to find convincing empirical support for

these predictions, suggesting that their assumptions are not well reflective of the real world.

A common theme of the literature that discusses the factors influencing intraindustry information transfers is that they are determined by, i. whether the information pertains to firm specific factors or industry-wide factors and ii. whether the announcing firm and the nonannouncing firms can be characterized as rivals (substitutes) or nonrivals (complements). Kim et al (2008) empirically test this latter conjecture. They separate firms within a 4-digit SIC code into rivals and nonrivals[5] and find some evidence that intraindustry information transfer effects related to management forecasts by nonrivals are positive while those related to rivals' forecasts are negative.

While specific context of the news and competitive relation between the announcing and nonannouncing firms can dictate the direction of intraindustry information transfers, a preponderance of evidence continues to suggest that intraindustry information transfers are positive on average (Foster 1981; Clinch and Sinclair 1987: Han et al. 1989; Freeman and Tse 1992a) indicating industry-wide commonalties as opposed to competitive shifts to be the dominant force.

2.2.3 Is the Market Rational in Responding to Intraindustry Information?

There is a substantive body of evidence suggesting that investors are not completely rational in reacting to publicly available information. For example, Bernard and Thomas (1989, 1990), among others, document that investors are inefficient in assessing the implications of current period earnings on future earnings and they

[5] Kim et al (2008) use Hoover's handbooks and the firms' 10-k disclosures to identify the rivals of a firm.

underreact to more recent earnings news.[6] On the other hand, a number of papers document long-run reversals of prior stock price changes, consistent with the notion that investors overreact to information (see, e.g., DeBondt and Thaler 1985, 1987; Chopra et al 1992).

The evidence on whether the market is fully rational in incorporating intraindustry information transfers into security prices remains mixed. Ramnath (2002) argues that investors underreact to the intraindustry information content in the first earnings announcement within an industry, leading to predictable returns to later announcers. He finds that a simple model based on the industry's first announcers' news and the pairwise correlation in past forecast errors of the first announcer and each subsequent announcer in the industry can be useful in predicting the forecast error of subsequent announcers. Moreover, buying and holding (selling short) stocks that are expected to have a positive (negative) forecast error according to this model from two days after the first announcement date in the industry to the day after a firm's own earnings announcement yields an average annualized market-adjusted return of about 15%. Consistent with Ramnath (2002), Easton et al (2010) find that the market is slow in incorporating intraindustry information effects to a firm's stock price, but presents a transaction cost based argument as a potential explanation for the observed phenomenon.

In contrast, Thomas and Zhang (2008) find a negative correlation between the price reaction to late announcers surrounding earnings reports by early announcers and the subsequent price reaction to late announcers' own earnings reports. This observation is consistent with the notion that the stock market overestimates the implications of

[6] For a review, see Bernard (1992)

intraindustry information and that this overestimation is corrected when late announcers disclose their earnings. Thomas and Zhang (2008) contend that the stock market is not fully rational in understanding the positive correlation between the earnings of firms in the same industry and this creates a reinforcement effect with respect to earnings expectation of late announcers when a number of early announcers report their earnings. The seemingly contradictory findings of these studies remain unreconciled[7] and whether the market is inefficient in responding to intraindustry information and if so in what manner remain questions that warrant further research scrutiny.

2.2.4 Informativeness of a Firm's Earnings News in the Presence of Intraindustry Information Transfers

Even though researchers have investigated intraindustry information transfers for at least three decades, studies on how the informativeness of a firm's earnings is impacted by the presence of intraindustry information has received very little attention.

Among the few exceptions, Freeman and Tse (1992a) find that the price reaction to a firm's own earnings announcement is more highly significant and more substantial than a late announcer's price reaction to the earnings news of an early announcer. Lang and Lundholm (1996) explore the incremental value relevance of intraindustry versus the firm's earnings news. They regress firm returns over the entire industry earnings announcement window on changes in both the firm's own earnings and those of other industry members, and show that both intraindustry information transfers and the firm's earnings are incrementally value relevant. That is, both the firm's earnings and other

[7] Although Thomas and Zhang (2008: 910n1) note a number of differences between their study and that of Ramnath (2002), they also point out that such clarification is not an attempt to reconcile the two contradictory findings.

industry member earnings are seen as significant factors in explaining the stock price movement over the industry earnings announcement window.

2.3 Complementary Nature of Accounting Earnings Information

While the role of earnings in security valuations is widely accepted it needs to be noted that accounting earnings is clearly not the sole source of value relevant information. The markets are constantly fed with information inputs from a wide array of sources. These competing sources of information include (but are not limited to) (1) macroeconomic and industry information from sources such as the Federal Reserve, the Bureau of Labor Statistics, and various industry associations (see, e.g., Pearce and Roley 1985; Hardouvelis 1987) (2) voluntary disclosures by the firm (see e.g., Patell 1976; Jaggi 1978; Penman 1980) and (3) both mandatory and voluntary disclosures by other firms in the industry (see, e.g., Foster 1981; Baginski (1987). Moreover, the summary measure of earnings itself can be decomposed to individual components and these components can provide incremental value relevant information that are obscured when they are aggregated into a single earnings measure (Lipe 1986, Swaminathan and Weintrop 1991, Ertimur et al 2003).

Consequently, a number of papers have analyzed how the informativeness of earnings news is impacted by the presence of other information. They generally tend to indicate the information from other sources complementing the earnings information as the market participants analyze these different pieces of information jointly.

For instance, in their study of independent cellular companies, Amir and Lev (1996) highlight the complementarity between earnings and other nonfinancial

information as they find the value relevance of accounting earnings to enhance when they are combined with other nonfinancial performance measures such as population coverage and market penetration. Interestingly, they do not find either the level of or change in earnings to be significant in explaining the security prices on a standalone basis. They attribute this to heavy investments in intangibles and substantial spending on customer base and market share that characterized the industry during their sample period.

Kane et al (1984) report that the market interprets the earnings and dividends information jointly in pricing of securities. In their analysis of earnings and dividend announcements occurring close to each other, they show that interactive variables indicating the positive versus negative nature of earnings and dividend news are significant in explain announcing period returns, but the earnings and dividend surprise variables themselves lose their significance when these interaction terms are included in the regression. In a somewhat related paper, Ely and Mande (1996) find that financial analysts use both earnings and dividend information in estimating future earnings of a firm. They also find that the corroborative use of earnings and dividends information by the analysts vary across the noisiness of earnings information where the corroboration is greater when the earnings are more variable.

Rees and Sivaramakrishnan (2007) study the consistency of a firm's earnings and revenue forecasts. They find that the previously documented market premium for meeting or beating earnings forecasts (see, Bartov et al 2002, Kasznik and McNichols 2002, Lopez and Rees 2002) is significantly higher when revenue forecast is also met. Also the market penalty for missing earnings forecasts is attenuated (accentuated) when earnings forecast is met (not met). This finding is consistent with notion of investors assessing the

future prospects of a firm through multiple signals and reacting more strongly when these signals are consistent with each other. In a similar vein Freeman and Tse (1989) argue that investors react to earnings news across multiple periods. They argue that when the current period's earnings signal contradicts that of the previous period, the market makes larger revisions in the persistent estimates with respect to the previous period's earnings. Accordingly, they hypothesize and find that the magnitude of market reaction to the current period's earnings news is greater when it contradicts with the previous period's earnings news.

In an analytical paper, Gigler and Hemmer (1998) present the case for "confirmatory role" in mandatory financial disclosures such as earnings in ensuring the credibility of voluntary disclosures. They model mandatory financial disclosures as verifiable, but noisy and possibly late signals of the managers' private value-relevant information. The verifiability of these signals makes them useful in evaluating the truthfulness of timelier voluntary disclosures even though mandatory disclosures themselves may not contain any new information. Accordingly, Gigler and Hemmer (1998) argue that it is possible to have a disclosure regime which supports the most informationally efficient market where the market ignores the mandatory report for valuation purposes.

One common feature of the extant literature that assesses the informativeness of earnings in the presence of other information is that the other information stem from the firm itself. Nonfinancial information (Amir and Lev 1996), dividend information (Kane et al 1984, Ely and Mande 1996), revenue information (Rees and Sivaramakrishnan 2007), and voluntary disclosures (Gigler and Hemmer 1998) are all firm specific and

disclosed by the firm. To the best of my knowledge no extant study investigates how the informativeness of a firm's earnings is impacted by outside information such as industry performance and disclosures by industry peers.

CHAPTER 3: HYPOTHESIS DEVELOPMENT

3.1 H1 - Intraindustry Information Transfers and the Confirmatory Role of Earnings

Building on the prior literature on intraindustry information transfers and the markets' use of other information in a complementary manner when evaluating a firm's earnings news, in my first hypothesis, I investigate whether the informativeness of a firm's earnings news is conditional on whether this news confirms or contradicts the previously announced industry member earnings news. The motivation for this hypothesis stems from two sources.

First, despite the rather sizeable literature on intraindustry information transfers, there is scant evidence on how the presence of intraindustry information affect the informativeness of a given firm's earnings news. In related work, Freeman and Tse (1992a) find the price reaction to a firm's own earnings announcement to be more highly significant and substantial than the reaction to intraindustry information transfers due to other industry member earnings announcements, indicating that a firms' earnings announcement is a more important news event than earnings announcements of other members of the industry. Lang and Lundholm (1996) investigate whether intraindustry information continues to be value relevant if the firm's earnings news is known. They regress firm returns over the entire industry earnings announcement window on changes in both the firm's own earnings and those of other industry members and find that both

intraindustry information and the firm's earnings are incrementally value relevant. However, to my knowledge no prior research has examined whether and how the informativeness of a firm's earnings news is impacted by the earnings announcements of other industry members. That is, how does the presence of industry member earnings news impact the informativeness of the firm's earnings signal?

Second, the extant literature that investigates the information value of a firm's earnings in the presence of other information focuses on other information relating to and announced by the firm itself. For example, Kane et al (1984) and Ely and Mande (1996) find that the market and financial analysts take the corroborative nature of both earnings and dividends information into account when pricing stocks and estimating future earnings. Amir and Lev (1996) find that for independent cellular companies, value relevance of earnings is enhanced when it is combined with nonfinancial information. Rees and Sivaramakrishnan (2007) show that the premium for meeting or beating earnings forecasts is higher when the earnings and revenue news are confirmatory. In contrast, Freeman and Tse (1989) document that the magnitude of market reaction to the current period's earnings news is greater when it contradicts with the previous period's earnings news. While this body of literature establishes that the presence of other information can impact the manner in which the market digests a firm's earnings news, none has explored role of information sources that are outside of the firm in this regard. Hence, exploring how the earnings news of previously announced industry members affect the market's response to a firm's earnings news contributes towards further enhancing our understanding of this broader issue.

The earnings news of early announcing industry members can be an important determinant of how the market perceives the valuation implications of a firm's earnings information. Although earnings announcements can signal a firm's future prospects in terms of both firm-specific idiosyncratic factors and industry- and economy-wide factors, as more firms in an industry make earnings announcements, the effects of both idiosyncratic factors and random error likely get canceled out, thereby augmenting market understanding of how industry trends have contributed to firm performance. For example, if a clear majority of firms in an industry report better-than-expected earnings, the market is likely to form a favorable view of the industry, one likely to be stronger than when earnings signals are mixed. Conversely, a preponderance of negative earnings news from industry members is likely to result in strong negative views of future industry prospects.

Hence, if a given firm announces earnings news that confirms the beliefs already created by previous announcements in the industry, this confirmatory announcement may well be perceived by the market as having a lower noise-to-signal ratio with respect to how industry-wide trends affect firm performance. On the other hand, if the firm's earnings announcement contradicts previously formed beliefs, the market may view such earnings as having a greater degree of noise and/or affected by transitory factors that are less likely to be indicative of future performance. In other words, earnings news that is contradictory is more likely to be discounted as an "outlier." If so, earnings news that contradicts the beliefs created through prior announcements in the industry should evoke smaller market reactions than earnings that are confirmatory. That is, the presence of previous industry announcements should lead to a confirmation premium or contradiction

discount in the market's response to subsequent earnings announcement by a firm. This performance alignment hypothesis can be stated in the following alternate form:

> **Performance alignment hypothesis – H1A:** The magnitude of market reaction to a firm's earnings news is greater when this news confirms rather than contradicts the earnings news previously announced by other firms in the industry.

On the other hand, it could also be argued that earnings news that contradicts previous announcements in the industry can in fact be more revealing of a firm's innate strengths and weaknesses. For instance, if a firm reports better-than-expected results in a weak environment in which most industry members have failed to meet expectations, it is possible that the firm is exhibiting robust evidence of its innate strength and ability to excel even in a difficult external environment. Such positive contradictory news may be construed as evidence that the firm is on a stronger competitive footing than its peers, that its managers possess superior managerial ability, and/or that the risk of the firm is lower than that of others in the industry. The opposite would be true for a firm that announces negative earnings news in an environment in which most industry members are beating expectations. If contradictory earnings news is a strong signal of a firm's innate competitiveness, perhaps such announcements should evoke larger market reactions than confirmatory earnings.

This *performance differentiation hypothesis* can be formally stated in the following alternate form:

Performance differentiation hypothesis - H1B: The magnitude of market reaction to a firm's earnings news is smaller when this news confirms rather than contradicts the earnings news previously announced by other firms in the industry.

3.2 Intraindustry Information Transfers and Potential Discrepancies between Analysts' Forecasts and True Market Expectations

It is standard empirical practice to use analysts' forecasts (either the consensus or the most recent) to proxy market earnings expectation and measure "earnings news" as the difference between the actual earnings and the analyst forecast. However, it should be noted that the analysts' process of making/revising earnings estimates is discrete, whereas market updating of expectations based on new information is continuous. This phenomenon of discrete analyst estimates versus continuous updating of true market expectations means that analysts' forecasts measure market expectations with error. The magnitude of this error may be especially nontrivial during periods such as the earnings season where intraindustry information arrives at the market rapidly. More importantly, these errors can become systematic if intraindustry information transfers are either systematically positive or negative as this would lead to analyst estimates being systematically lower or higher than true market expectations.[8] These systematic differences between analyst estimates and true market expectations can have major implications for research on the informativeness of earnings and the informational efficiency of the stock market. Most particularly, not only they could give rise to classical

[8] Analyst optimism is an additional source of systematic differences between analyst estimates and market expectations (Pinello 2008). However, my sample selection criteria, described in Section III, attempt to mitigate this possibility.

measurement error problems that attenuates regression coefficients towards zero, but also, depending on their interaction with a given variable of interest, these differences can cause the overrejection of the null hypothesis.

Specifically relating to H1 outlined in Section 3.1, systematic differences between analyst forecasts and true market expectations can create the false impression of confirmation discounts or premiums depending on whether intraindustry information transfers are positive or negative. For example, if intraindustry information transfers are positive as suggested in the prior literature, good news from early announcing firms will raise the earnings expectations of late announcers. Assuming that analysts fail to revise their published estimates accordingly, if a late announcer subsequently reports good news as well (i.e. confirmatory earnings news) a researcher using analyst forecasts to proxy market earnings expectation would overestimate the earnings surprise. As the actual price reaction is attributed to this overestimated earnings surprise the ERC will be understated, creating the erroneous impression of a confirmation discount. A numerical example illustrating this possibility is presented in Appendix A.

In testing H1, therefore, it is imperative to control for the differences between analyst forecasts and true market expectations. In order to do so, assuming that the revisions of the markets' earnings expectation since the most recent analyst estimate is reflected in the firm's subsequent abnormal returns, I model the markets' earnings expectation as a function of the most recent analyst forecast and the firm's abnormal returns since the forecast but prior to the earnings announcement. This approach is outlined in Section 4.2.2 and further elaborated in Appendix B.

3.3 H2 - Differential Persistence Effects of Confirmatory versus Contradictory Earnings

Although H1A (performance alignment) posits the existence of a confirmation premium and H1B (performance differentiation) that of a confirmation discount, both imply the following question: Does the market assign different capitalization rates (ERCs) to a firm's earnings news conditional on whether it confirms or contradicts earlier earnings announcements in the industry? In other words, does the market perceive confirmatory and contradictory earnings news to fundamentally differ in terms of their implications for stock valuation? If yes, earnings with confirmatory surprises may be distinct from those with contradictory surprises in terms of factors that the extant literature has identified as determinants of ERC. These include characteristics such as risk, growth implications, and earnings persistence.

In this light, given the importance that the literature has placed on the persistence of earnings from a valuation perspective (Easton and Zmijewski 1989; Kormendi and Lipe 1987; Sloan 1996), I propose to test for potential differences in earnings persistence depending on whether a firm's earnings news is confirmatory or contradictory. As discussed by Schipper and Vincent (2003), *"…persistence captures the extent to which the current period innovation becomes a permanent part of the eamings series"* and therefore *"A highly persistent eamings number is viewed by investors as sustainable, that is, more permanent and less transitory"* (p.99). Accordingly, differences in persistence can provide a plausible explanation as to why the market may react differentially to confirmatory versus contradictory earnings.

However, I note that the objective of this exercise is not to exhaustively explain the findings of H1, but to investigate whether they can be shown to be consistent with some observable earnings property.

Consistent with H1A, if a confirmation premium does indeed exist, under the premise of market rationality, the earnings that confirm those previously announced by peers are likely more persistent than those that are contradictory. On the other hand, if the confirmation discount postulated in H1B does indeed exist, the same premise of market rationality dictates confirmatory earnings to be less persistent than those that are contradictory. The second set of hypotheses can thus be expressed in the following alternate form:

> **H2A:** The persistence of current earnings into future periods is greater when the surprise in these earnings confirms rather than contradicts the earnings news previously announced by other firms in the industry.
>
> **H2B:** The persistence of current earnings into future periods is weaker when the surprise in these earnings confirms rather than contradicts the earnings news previously announced by other firms in the industry.

3.4 Market Efficiency in Processing of Intraindustry Information

Prior literature provides some evidence that the market may not be fully efficient in processing intraindustry information transfers. Ramnath (2002) finds that a simple model based on the industry's first announcers' news and the pairwise correlation in past forecast errors of the first announcer and each subsequent announcer in the industry is useful in predicting the forecast error of subsequent announcers and generating abnormal

stock returns. Ramnath's (2002) finding is consistent with the market underreacting to intraindustry information transfers. Moreover, Easton et al (2010) find that the market is slow in incorporating intraindustry information effects to a firm's stock price. In contrast, Thomas and Zhang (2008) argue for an apparent overreaction to intraindustry information as they find a negative correlation between the price reaction to late announcers surrounding earnings reports by early announcers and the subsequent price reaction to late announcers' own earnings reports.

A concern of particular importance to this dissertation is that over- or underreaction to intraindustry information can be a potential alternative explanation for the empirical observation of confirmation premiums or discounts. For example, assume that information transfers are positive but the market underreacts to intraindustry information. Under this scenario, when a late announcing firm reports results that are confirmatory to those of early announcing firms (that is, both the late announcing firm's and early announcing firms' earnings surprises are either positive or negative) the investor surprise, and therefore the price reaction will be greater than what would be rationally justified. To the extent that the expectations model used by the researcher is relatively more rational[9], it will appear as if confirmatory earnings surprises gets capitalized at higher price multiples (i.e. a confirmation premium) since the price reaction is disproportionately large relative to the rational earnings surprise. The reverse would be true if the market overreacts to intraindustry information.

[9] For example, Ramnath (2002) reports that analysts are relatively more rational than investors in incorporating intraindustry information effects to their earnings estimates. Abarbanell and Bernard (1992) report similar findings with respect to over- underreaction to prior earnings information.

Moreover, there could be other behavioral phenomena that could generate confirmation premiums or discounts. For example, according to the cue-consistency theory advanced by Anderson and Jacobson (1965) and Slovic (1966), in forming judgments, the weight given to a particular signal (cue) by a decision maker is lower than rationally warranted if that signal is inconsistent with the implications of other signals that are on offer. If this theory is representative of the market behavior, contradictory earnings news will generate smaller than justified market reactions. This smaller than rationally warranted market reaction to contradictory earnings news will lead to the empirical observation of confirmation premiums since the reaction to confirmatory news is not affected by this behavioral bias.

However, if the confirmation premiums or discounts are observed not due to the rationale outlined in H1, but due to an entirely behavioral phenomenon such as market over- or underreaction to intraindustry information or the notion of cue-consistency, we would not expect the H1 observations to be related to differential persistence of earnings with confirmatory versus contradictory surprises. In other words, a behavioral theory based explanation cannot lead to systematic differences in confirmatory versus contradictory earnings in terms of their fundamental properties. Hence, in addition to testing a research question that is interesting in its own right, H2 also functions as a robustness test on the validity of the outlined rationale of H1.

For example, if the empirical observations reveal the presence of a confirmation premium (i.e. performance alignment hypothesis) along with greater persistence of confirmatory earnings, the former finding can be interpreted as a rational response to this greater persistence property, in line with the arguments advanced in H1A. On the other

hand, results supportive of H1A without corresponding evidence of greater earnings persistence for firms with confirmatory surprises, could indicate that the market either underreacts to intraindustry information or behaves in a manner descriptive of the cue-consistency theory.

It is also worthwhile noting that if the market is not fully efficient the possibility that the empirical analysis supports either H2A or H2B while neither H1A nor H1B is supported remains open as well. An outcome of this nature would be consistent with the market's inability to unravel the differential valuation implications of confirmatory and contradictory earnings news even when they differ in terms of persistence.

CHAPTER 4: SAMPLE SELECTION AND RESEARCH DESIGN

4.1 Sample Selection

All the data used in this study are from public sources. The data on both actual earnings and analyst estimates of earnings are from the Thompson Reuters First Call database, while the data on stock returns surrounding earnings announcements are from the Eventus database. The primary source for the control variables used in the regressions is the Compustat North America database.

Because prior research indicates that Regulation Fair Disclosure (Reg–FD), which became effective in late 2000, has led to systematic changes in analyst behavior in terms of significantly tempering their overoptimism (Hovakimian and Saenyasiri 2010), this paper focuses on the quarterly earnings announcements of domestic listed firms for the periods between January 2001 and June 2010. Exclusion of preregulation (Reg-FD) data also enhances the external validity of results in the postregulation world.

Data collection, which began with the gathering of quarterly earnings announcements for the sample period, focuses only on firms whose fiscal quarters match calendar quarters, because it is difficult to define the overall direction of the previously announced industry peer's earnings news for firms that do not meet this criterion. Also excluded are loss making firms, because prior research suggests that the shareholder liquidation option leads to a marked difference between the information content of losses

and that of profits (Hayn 1995). These actual quarterly earnings are then matched with the most recent analyst estimates (made prior to the announcement of actual earnings) for each firm quarter.[10] As regards the common practice of using either the consensus forecast or the most recent analyst estimate to proxy for expected earnings, this paper employs the latter. This selection is based on empirical evidence that most current forecasts tend to be more accurate than consensus estimates (O'Brien 1988; Brown and Kim 1991), which in turn implies that forecast dates are more relevant than individual error for determining accuracy. The use of the latest forecast also allows me to control (in the later tests) for information transfers occurring after this forecast.

Consistent with prior research on intraindustry information transfers (e.g., Foster 1981; Baginski 1987; Han and Wild 1990; Kim et al. 2008), I use the 4-digit Standard Industry Classification (SIC) code to group firms into industries. I define a firm's earnings announcement as confirmatory if the sign of the earnings surprise, measured as the difference between the actual and latest analyst forecast, is the same as that of at least half the firms in the same industry that have previously reported earnings for the same quarter.[11] For a firm to be included in the final sample in any given quarter, at least one other firm in the same industry must have previously announced earnings for that same quarter. Finally, to ensure that the results are not driven by outliers, I truncate all variables at the 1 and 99 percentile levels of their respective distributions. The final sample for the initial tests of H1 consists of 38,145 observations from 2,906 unique firms. Sample sizes for subsequent tests depend on the additional data requirements.

[10] The use of First Call data eliminates any risk of analysts backdating forecast information, which can occur in the I/B/E/S database because analysts self-report their estimates and can change them retrospectively.

[11] Subsequent inferences remain identical when the observations with *exactly* half the previously announced industry earnings are confirmatory is removed from the sample.

Table 1 summarizes the distribution of the sample in terms of whether the earnings surprises are confirmatory or contradictory. As the table shows, not only does a large majority (nearly 75 percent) of firms either meet or beat analyst estimates, but over 70 percent of firm earnings surprises are confirmatory. A contrasting picture emerges, however, when nonnegative (meet or beat) earnings surprises are differentiated from negative earnings surprises: nearly 90 percent of the former are confirmatory (25,600/28,472) as opposed to less than 13 percent of the latter (1,229/9,673). These observations seem to indicate that the industry-wide commonalities that link the fortunes of all firms in the industry are greater when the earnings news is positive than when it is negative. Information revelations of negative earnings, in contrast, seem more idiosyncratic.

[Insert Table 1 here]

4.2 Research Design

4.2.1 Baseline Models for Testing H1

The baseline model (Model 1) for testing the magnitude of the market reaction to a firm's earnings news dependent on its being confirmatory or contradictory is as follows:[12]

$$CAR_{it} = \alpha_0 + \alpha_1 Confirm_{it} + \alpha_2 Surprise_{it} + \alpha_3 Confirm_{it} * Surprise_{it} + \varepsilon_{it} \quad (1)$$

[12] Bartov et al. (2002) use a similar approach in testing for "meet-beat" premiums. They also control for forecast error (the difference between actual earnings and the earliest forecast) because the set of possible expectation paths could differ across cases with positive, zero, or negative forecast errors, which may in turn have implications for meet-beat premiums.

where the dependent variable *CAR* is the size-adjusted two-day abnormal return [0,+1] surrounding the firms' earnings announcement. *Confirm* is an indicator variable that equals 1 if the sign of the earnings surprise, measured as the difference between the actual and the latest analyst forecast, matches at least half the firms in the same industry that have previously reported earnings for the same quarter, and 0 otherwise. *Surprise* is the earnings surprise measured as the difference between the actual and the latest analyst estimate of earnings per share (EPS) scaled by the end-of-quarter share price. The interaction term *Confirm*Surprise* (α_3), which is the variable of interest with respect to H1, captures the incremental market reaction for confirmatory earnings news. A positive and significant α_3 implies a confirmatory premium (H1A) while a negative and significant α_3 implies a confirmatory discount (H1B).

Model (2) then introduces additional control variables that account for the salient factors shown in the literature to be associated with the magnitude of market reaction to earnings news:

$$CAR_{it} = \alpha_0 + \alpha_1 Confirm_{it} + \alpha_2 Surprise_{it} + \alpha_3 Confirm_{it} * Surprise_{it} + \alpha_j X_{it} * Surprise_{it} + \alpha_k X_{it} + \varepsilon_{it} \quad (2)$$

where *X* is a vector of the control variables, including those for growth (Collins and Kothari 1989), risk (Easton and Zmijewski 1989), and earnings persistence (Kormendi and Lipe 1987; Easton and Zmijewski 1989).[13] *Growth* is the firm's market-to-book ratio, and *Beta*—the stock beta reported by Compustat and calculated based on stock and

[13] I do not control for size as the dependent variable is size adjusted returns. The results presented in this paper are not sensitive to the inclusion of a size control. When included, size control remains insignificant.

market returns for a 60-month period ending in the current month—is used to control for risk.

Three alternative proxies are used to control for earnings persistence (*Persistence*):[14] the earnings-price ratio, the magnitude of earnings change, and an earnings stability measure. The first follows Ou and Penman (1989) and Ali and Zarowin's (1992) argument that extreme earnings-price ratios represent earnings that are transitory whereas non-extreme earnings-price ratios indicate earnings that are predominantly permanent. They rank firms into ten groups based on earnings-price ratio with firms having positive earnings divided into nine groups of equal size and firms having negative earnings assigned to the tenth group. The earnings of the middle six groups are classified as predominantly permanent and those of the top and bottom two groups as predominantly transitory. This paper follows the same procedure with the exception that only nine groupings are done since the sample does not include loss firms.

As a second measure of earnings persistence, I follow Cheng et al. (1996) who use the magnitude of earnings change scaled by beginning-of-period price to measure the presence of transitory elements in earnings. This measure is based on the notion that transitory elements are more likely to be present when unexpected earnings values are large relative to price (Freeman and Tse 1992b; Ali 1994). The third persistence measure follows Rees and Sivaramakrishnan (2007), who use the five-year earnings stability measure obtained from I/B/E/S as their measure of persistence. Lower values of this measure indicate earnings that are more stable. Because the empirical results are not

[14] Controlling for earnings persistence is especially important to ensure that the effects of any observed "confirmation premiums/discounts" are over and above those that are explained and controlled for by extant literature.

sensitive to the persistence proxy, only the results that are obtained with the first measure are reported. As in Model (1), the interaction coefficient of *Confirm*Surprise* (α_3) remains the variable of interest.

The sample distribution statistics presented in Table 1 indicate that the implications of a potential confirmatory premium or discount may differ depending on whether or not the earnings news is nonnegative. For instance, the probability of earnings being confirmatory conditional on it being nonnegative is greater (25,600/28,472=89.9%) than the unconditional probability (26,828/38,145=70.3%). On the other hand, the probability of earnings being confirmatory conditional on it being negative is markedly lower (1,229/9,673=12.7%). Hence, it is worthwhile investigating whether any confirmation effects uncovered through Models (1) and (2) hold for both nonnegative and negative earnings surprises. I therefore analyze subsamples of nonnegative and negative earnings surprises separately.[15,16] Conducting subsample analysis in this manner also ensures that results are not confounded by the meet/beat premium documented in prior literature (Bartov et al 2002).

4.2.2 Controlling for Changes in Expectations Since the Most Recent Analyst Forecast

As already emphasized, analysts' forecasts may be systematically different from true market expectations because market expectations are continuously updated based on information transfers that occur between the most recent analyst forecast and the earnings announcement. Given that these systematic differences can create the impression of

[15] Running the model separately for nonnegative and negative earnings surprise subsamples is a less constrained approach than incorporating a dummy variable within a single equation because it allows the coefficients of all variables to differ across the two groups.
[16] Although 4,956 observations (13 percent) of the sample have zero earnings surprises (i.e., just meet market expectations), their exclusion does not alter any of the inferences.

confirmation premiums or discounts when none truly exists (see Appendix A), I investigate whether controlling for this possibility alters any of the inferences derived from the earlier tests of H1.

When the market receives new information, its corresponding revision of expectations is accompanied by ensuing changes in share price. It is therefore reasonable to argue that true market expectation of earnings can be modeled as a function of the most recent analyst forecast and the abnormal changes in share price that have taken place since this forecast. Accordingly, I refine Models (1) and (2) to arrive at augmented Models (3) and (4), respectively, which control for a variable that may confound the results of both earlier models— the probable changes in market expectations of a firm's earnings between the most recent analyst forecast and the earnings announcement (see, Brown et al 1987). The derivation of these models is given in Appendix B.

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \varepsilon_{it} \quad (3)$$

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \beta_j X_{it} * Surprise_{it} + \beta_k X_{it} * CAR'_{it} + \beta_l X_{it} + \varepsilon_{it} \quad (4)$$

where *CAR'* is the size-adjusted cumulative abnormal return from the day following the most recent analyst forecast to the day prior to the earnings announcement. In both Models (3) and (4), β_3, which captures the incremental market reaction to confirmatory earnings surprises, is the variable of interest.

4.2.3 Models for Testing H2

To test for differences in persistence between earnings with confirmatory versus contradictory surprises, I follow Sloan (1996):

$$Earnings_{i,t+n} = \rho_0 + \rho_1 Confirm_{it} + \rho_2 Earnings_{it} + \rho_3 Confirm_{it} * Earnings_{it} + \varepsilon_{it} \quad (5)$$

where *Earnings* is operating income scaled by average assets, and the dependent variable is earnings of up to eight quarters into the future ($Earnings_{i,t+n}$ and $n=1, 2, 3, \ldots,8$), on which eight separate regressions are run. The coefficient of $Earnings_t$ (ρ_2) represents the persistence of contradictory earnings, while the interaction coefficient of *Confirm*Earnings* (ρ_3), which is the coefficient of primary interest, captures the incremental persistence of confirmatory earnings. A positive and significant ρ_3 implies that confirmatory earnings are more persistent than contradictory earnings (H2A), whereas a negative and significant ρ_3 implies the opposite (H2B). In linking H1 and H2, a positive and significant ρ_3 is internally consistent with the presence of a confirmation premium (H1A), whereas a negative and significant ρ_3 would be meaningful if H1 uncovered the presence of a confirmation discount (H1B). In the same spirit as in H1, separate analyses are carried out on the full sample and the subsamples of nonnegative and negative earnings surprises.

CHAPTER 5: EMPIRICAL ANALYSIS

5.1 Descriptive Statistics

Table 2 provides the descriptive statistics for selected variables of interest. Consistent with the majority of firms' beating analysts' forecasts, both mean and median earnings surprises (*Surprise*), measured as the difference between actual EPS and most recent analyst forecast scaled by the end-of-quarter share price, are positive. In fact, untabulated statistics indicate that they are reliably greater than zero. On average, the signs of earnings surprises and the signs of market reaction to earnings announcements are consistent with each other. The mean and median of size-adjusted abnormal returns surrounding [0,+1] earnings announcements (*CAR*) are positive and reliably greater than zero. According to these statistics, the mean (median) time lag between the most recent analyst forecast and the earnings announcement is 37 (23) calendar days, and the mean (median) time lag between the end of the reporting period and the earnings announcement is 33 (30) days. Together, they indicate that analysts tend to come up with revised forecasts quite close to the end of the reporting period but are less likely to make subsequent revisions before the earnings announcement.

The mean (median) number of industry members (identified by 4-digit SIC code) that have announced earnings prior to the sample firm is 14 (6). Both the mean and median size-adjusted cumulative abnormal returns between the most recent analyst forecast and earnings announcement (*CAR'*) are positive and reliably greater than zero.

Given that earnings surprises tend to be positive on average, a positive mean and median for *CAR'* is consistent with the overall information transfer effects of intraindustry earnings announcements being positive, a finding in line with prior literature (see, e.g., Foster 1981; Clinch and Sinclair 1987; Freeman and Tse 1992a). The mean (median) values for total assets and market-to-book ratio are 1.2 billion dollars (4.7 billion dollars) and 2.7 (2.1), respectively. The mean value for *Beta* is 1.1, while its median is 0.97, indicating that the sample is generally representative of the overall market in terms of systematic risk.

[Insert Table 2 here]

5.2 Results for H1

5.2.1 Tests of H1 Using Baseline Models

Table 3, Panel A reports the results of Models (1) and (2) for the full sample. In Model (1), whose outcomes are given in the first two columns, the coefficient on *Surprise* captures the relation between earnings surprise and market reaction for firms whose earnings surprises are contradictory. As expected, this coefficient is positive and significant (α_2 = 2.3446, p < 0.01). More important, the interaction coefficient of *Confirm*Surprise* is also positive and significant (α_3 = 0.3867, p < 0.01). This finding supports the HIA *performance alignment hypothesis*, which posits that the market reaction to earnings surprise will be stronger when this surprise confirms prior earnings news from industry peers. This evidence of a confirmation premium (and conversely, a contradiction discount) in earnings news indicates that the market may perceive confirmatory earnings news as less noisy and therefore more value relevant. The

magnitude of the confirmation premium, about 16 percent (0.3867/2.3446) over contradictory earnings surprises, is economically meaningful.

The results for Model (2), reported in the final two columns of Table 3, Panel A, further confirm these findings. As in Model (1), the coefficient of *Surprise* (α_2 = 0.8464, $p < 0.01$) and the interaction coefficient *Confirm*Surprise* (α_3 = 0.4204, $p < 0.01$) are positive and significant. In fact, controlling for other determinants of ERC increases the relative magnitude of the confirmation premium, which in Model (2) is nearly 50 percent (0.4204/0.8464). The interaction terms of all the control variables are also positive and significant. As expected, the coefficient on *Growth*Surprise* is positive (α_4 = 0.3747, $p < 0.01$), indicating that the earnings surprises of growth firms are capitalized at higher multiples, but the sign of *Beta*Surprise* is contrary to expectations (α_5 = 0.3802, $p < 0.01$). Consistent with the notion that earnings surprises with greater persistence generate stronger market reactions, *Persistence*Surprise* is positive and significant (α_6 = 1.1758, $p < 0.01$).

[Insert Table 3 here]

Table 3, Panel B reports the results of Models (1) and (2) for the subsample of nonnegative earnings news. These results are very much in line with the full sample results and attest to the presence of a confirmation premium, thereby supporting H1A. In Model (1), the coefficient on *Surprise* is positive and significant (α_2 = 1.9597, $p < 0.01$) as is the interaction coefficient of *Confirm*Surprise* (α_3 = 0.5597, $p < 0.05$), which measures the incremental market reaction for confirmatory earnings surprises. The results

for Model (2) are similar.[17] The magnitude of the confirmation premium is greater in the nonnegative earnings surprise subsample than in the full sample; almost 29 percent in Model (1) (0.5597/1.9597) and 65 percent in Model (2) (0.5743/0.8897). This finding raises the possibility that the confirmation premium could be smaller and/or insignificant for negative earnings surprises, a conjecture supported by Table 3, Panel C, which reports the Model (1) and (2) results for the subsample of negative earnings surprises. In both models, the coefficient on *Surprise* is positive and significant (Model (1): $\alpha_2 = 0.7032$, $p < 0.01$, Model (2): $\alpha_2 = 1.0882$, $p < 0.01$), but the interaction coefficient *Confirm*Surprise* remains statistically insignificant (Model (1): $\alpha_3 = 0.2094$, $p = 0.56$, Model (2): $\alpha_3 = 0.1330$, $p = 0.71$). In other words, there is no evidence of a confirmation premium for negative confirmatory earnings surprises, so neither H1A nor H1B can be supported for firms with negative earnings surprises.

Overall, the results reported in Table 3 suggest that the market perceives nonnegative confirmatory earnings surprises as less noisy and hence attaches an incremental premium to such earnings. The magnitude of this confirmation premium for nonnegative confirmatory earnings, with a lower bound of 29 percent over the capitalization rate for contradictory earnings surprises, is economically meaningful. On the other hand, no such confirmation premium is apparent for negative earnings surprises, and no evidence emerges that the market distinguishes between negative earnings surprises that are confirmatory and those that are contradictory.

[17] The coefficient on *Surprise* is positive and significant ($\alpha_2 = 0.8897$, $p < 0.01$) and so is the interaction coefficient of *Confirm*Surprise* ($\alpha_3 = 0.5743$, $p < 0.05$).

5.2.2 Tests of H1 Using Augmented Models

As discussed in previous sections, the discrete nature of analysts' forecasts versus the continuous updating of true market expectations could potentially lead to true market expectations being systematically different from analysts' forecasts. Therefore, as shown in Appendix A, failure to control for these differences can lead to spurious confirmation discounts in the presence of positive intraindustry information transfers and to spurious confirmation premiums in the presence of negative intraindustry information transfers. I thus run an estimation using augmented Models (3) and (4) that incorporates a control for information events that may have taken place since the most recent analyst forecast.

[Insert Table 4 here]

Table 4, Panels A, B, and C report the Model (3) and (4) results for the full sample, the nonnegative earnings surprise subsample, and the negative earnings surprise subsample, respectively. These results are very much in line with those of Models (1) and (2). For the full sample (Table 4, Panel A), the interaction coefficient of *Confirm*Surprise* is positive and significant [Model (3): $\beta_3 = 0.4214$, $p < 0.01$, Model (4): $\beta_3 = 0.4554$, $p < 0.01$], indicating the presence of a confirmation premium and support for H1A. As shown in Table 4, Panel B, this confirmation premium is greater in the subsample of nonnegative earnings surprises [Model (3): $\beta_3 = 0.5746$, $p < 0.05$, Model (4): $\beta_3 = 0.5886$, $p < 0.05$] than in the full sample. In addition, the magnitude and statistical significance of the interaction coefficient *Confirm*Surprise* is marginally

greater in Table 4, Panels A and B, than in Table 3.[18] In other words, controlling for divergence between the most recent analyst forecast and true market expectation has marginally strengthened the statistical support for H1A. Like Table 3, Panel C, however, Table 4, Panel C reveals no support for a confirmation premium (or discount) for negative earnings surprises [Model (3): β_3 = 0.2163, p = 0.55, Model (4): β_3 = 0.1512, p = 0.68]. Thus, the inferences that emerge from Table 4 are very much in line with those derived from Table 3. There is consistent evidence of the market assigning a confirmation premium for nonnegative confirmatory earnings surprises, but no such premium seems evident for negative earnings surprises.

The magnitudes of the ERCs obtained in these tests are generally consistent with the prior research. For example, using a similar specification to that of Model 3, Easton and Zmijewski (1989) obtain a one-day (two-day) holding period mean ERC of 2.531 (1.649).[19] The corresponding two-day holding period ERC for contradictory (confirmatory) earnings reported in Table 4, Panel A is 2.3420 (2.7634). I expect my ERCs to be somewhat larger than those reported by Easton and Zmijewski (1989) as loss firms are excluded from my sample. Hayn (1995) illustrates how the inclusion of loss firms can significantly dampen the magnitude of ERCs in cross sectional regressions. She reports an ERC of 2.64 for profitable firms but only 0.50 for loss firms.[20]

[18] In Table 3, Panel A, the magnitude (p-value) of the interaction coefficient *Confirm*Surprise* is 0.3867 (0.008) and 0.4204 (0.005) for Model (1) and Model (2), respectively. In Table 4, Panel B, the magnitude (p-value) of the corresponding coefficient improves to 0.4214 (0.004) and 0.4554 (0.002), respectively. Similarly, in Table 3, Panel B, the magnitude (p-value) of the interaction coefficient *Confirm*Surprise* is 0.5597 (0.047) and 0.5743 (0.042) for Model (1) and Model (2), respectively, and these figures improve to 0.5746 (0.041) and 0.5886 (0.037), respectively, in Table 4, Panel B.
[19] See Table 2 of Easton and Zmijewski (1989).
[20] See Table 4 of Hayn (1995).

Whether the confirmation premium for nonnegative earnings surprises exists due to the revision of the markets' expectations about future cash flows (that is, the numerator of a classical discounted cash flow valuation model) or the revisions of the estimated uncertainty of these future cash flows (that is, the denominator of a classical discounted cash flow valuation model) is an important question. Keeping the discount rate constant, Kormendi and Lipe (1987) derive how the current period earnings innovation induces revisions in the markets' expectation of future cash flows and hence how more persistent earnings gives rise to larger ERCs. To this extent, the results of H2 which are reported in the following section can be interpreted as indicating whether the differential market reaction to confirmatory versus contradictory earnings is attributed to a cash flow (that is, a numerator) effect. However, the notion that confirmatory nonnegative earnings surprises (or for that matter earnings innovations that exhibit greater ex-post time series persistence) are perceived as less risky by the market and therefore gets capitalized at a lower discount rate cannot be completely ruled out. Hence, further investigations of this matter are left for future research.

5.3 Results for H2

H2 tests whether confirmatory earnings carry greater or lesser persistence than contradictory earnings: H2A posits greater persistence for confirmatory earnings; H2B argues the opposite. Table 5, Panel A reports the results for Model (5) for the full sample. The results of all eight separate regressions with earnings of up to eight quarters ahead as the dependent variable are strikingly similar: the coefficient of *Earnings* is consistently

positive and significant (the magnitude of ρ_2 varies from 0.3829 to 0.6179, $p < 0.01$). More important, the interaction coefficient of *Confirm*Earnings* is positive and significant across all specifications (the magnitude of ρ_3 varies from 0.0734 to 0.1839, $p < 0.01$), indicating that confirmatory earnings are more persistent on average than contradictory earnings (H2A). This finding is internally consistent with the earlier finding of a confirmation premium in the market's response to earnings news, which in turn implies that confirmatory earnings are indeed less noisy signals of future performance.

[Insert Table 5 here]

In terms of the presence of a confirmation premium conditional on whether the earnings surprise is nonnegative or negative, I found significant evidence of a premium only for confirmatory nonnegative earnings surprises. This finding implies that incremental information content (or inversely, the "noise" component), as well as earnings persistence, could differ depending on whether the earnings surprise is nonnegative or negative. Table 5, Panels B and C report the results of Model (5) for the nonnegative and negative earnings surprise subsamples respectively.

The results for nonnegative earnings surprise subsample (Table 5, Panel B) are broadly similar to those of the full sample. The coefficient of *Earnings* is positive and significant across all eight specifications (the magnitude of ρ_2 varies from 0.2111 to 0.6362, $p < 0.01$). The interaction coefficient of *Confirm*Earnings* is positive and significant as well (the magnitude of ρ_3 varies from 0.1070 to 0.4541, $p < 0.01$), indicating that when it comes to earnings with nonnegative surprises, confirmatory earnings are more persistent than contradictory earnings (H2A). In a rational market, this

discovery of greater persistence for earnings with nonnegative confirmatory surprises is consistent with the earlier finding of a confirmation premium for such surprises. It is also worth noting that the magnitude of the coefficient of *Confirm*Earnings* is substantially larger in nonnegative earnings surprise subsample than the full sample. Average coefficient size of ρ_3 across the eight specifications is 0.2118 for the nonnegative earnings surprise subsample and only 0.1030 for the full sample (not tabulated), indicating that the greater persistence of confirmatory earnings is more pronounced for earnings with nonnegative surprises.

Model (5) results for the negative earnings surprise subsample are reported in Table 5, Panel C. Similar to the full sample and the nonnegative earnings surprise subsample, the coefficient of *Earnings* is positive and significant across all eight specifications (the magnitude of ρ_2 varies from 0.4022 to 0.6099, $p < 0.01$). However, in contrast, the interaction coefficient *Confirm*Earnings* is negative and significant (the magnitude of ρ_3 varies from -0.3178 to -0.1541, $p < 0.01$), indicating that earnings with negative confirmatory surprises are in fact less persistent than those with contradictory surprises. In other words, I find strong support for H2B in the subsample of firms with negative earnings surprises, an interesting finding given the H1 results for the negative earnings surprise subsample (Tables 3 and 4, Panel C), which failed to support either a confirmation premium or a discount. That is, whereas H1 finding implies no market discrimination between confirmatory and contradictory negative earnings surprises, the H2B finding that earnings with confirmatory negative surprises are less persistent than those with contradictory negative surprises (ρ_4 is negative and significant) raises the

question of whether the market is overreacting (i.e., not assigning a confirmation discount) to such earnings news.

Overall, I find that earnings with confirmatory positive surprises are more persistent than those with contradictory surprises, which provides a rational explanation for the presence of a confirmation premium for such firms as postulated by H1A. On the other hand, earnings with confirmatory negative surprises appear less persistent than those with contradictory surprises. As there was no evidence of differential ERCs when it comes to negative earnings surprises, this suggests that the market may be overreacting to negative earnings surprises that are confirmatory. I explore this aspect further in the following chapter.

CHAPTER 6: SUPPLEMENTAL ANALYSIS

6.1 Confirmation Premium in Growth versus Value Industries

In Section 3 it was argued that confirmatory earnings news could be more revealing of how industry-wide trends affect firm performance while contradictory earnings could be more revealing of a firm's innate strengths and weaknesses. It is also reasonable to conjecture that the nature of the industry in terms of its growth prospects would affect whether the investors put more weight on industry-wide or firm specific factors when pricing a firm. For example, following the notion that a rising tide lifts all boats, industry-wide factors could be more important for firms operating in growth industries as the expanding market creates opportunities for all firms in the industry. On the other for firms that operate in value industries which are slow growing or stagnant, a firm's innate strengths and weakness could play a larger role as all industry members compete within a constrained market. Hence it becomes interesting to analyze whether the findings of a confirmation premium differ across growth and value industries.

Accordingly, I rerun the regression Model (4) for growth and value industries separately. An industry is identified as a growth industry if its market to book ratio in a given quarter is greater than the median of industry market to book ratios for the same period and as a value industry otherwise. Industry market to book ratio is defined as the median market to book ratio of firms in an industry-quarter. Table 6, Panels A, B, and C report these results for the full sample, the nonnegative earnings surprise subsample, and

the negative earnings surprise subsample, respectively. Results for the growth industries are reported in the first two columns while those for the value industries are reported in the final two columns.

[Insert Table 6 here]

For the full sample (Table 6, Panel A), the interaction coefficient of *Confirm*Surprise* is positive and significant for both growth and value industries [Growth industries: $\beta_3 = 0.8080$, $p < 0.01$, Value industries: $\beta_3 = 0.3010$, $p < 0.10$], demonstrating the presence of a confirmation premium regardless of the nature of the industry. While the magnitude of the coefficient appears greater and statistically stronger for growth industries, a chi-squared test for the difference between the coefficients on *Confirm*Surprise* for growth and value industries fails to reject the null that coefficients are not different from each other [p=0.39].

Table 6, Panel B reports the results of Model (4) for the subsample of nonnegative earnings news. As in the full sample, the interaction coefficient of *Confirm*Surprise* continues to be positive and significant for firms from growth industries [$\beta_3 = 1.9142$, $p < 0.01$]. However, the coefficient of interest is no longer significant for firms from value industries [$\beta_3 = 0.0263$, p=0.93]. Moreover a test for the difference between this coefficient across growth and value industries indicate it to be significantly larger for firms from growth industries [$p<0.05$]. Results in Table 6, Panel B are consistent with the conjecture that signals revealing the effects of industry-wide factors on firm performance are valued more by investors when they relate to growth as opposed to value industries.

Consistent with the main results, I fail to find the presence of a confirmation premium for firms with negative earnings surprises irrespective of whether they belong to growth or value industries (Table 6, Panel C) [Growth industries: β_3 = 0.2154, p= 0.82, Value industries: β_3 = 0.2092, p=0.58].

6.2 Exclusion of Industry Leaders

There is some evidence suggesting that the speed of intraindustry information transfers differ depending on whether the announcing firm is an industry leader or not. For example, Hou (2007) shows that the cross-autocorrelations between lagged returns on industry leaders and current returns on small firms are always greater than those between lagged returns on small firms and current returns on industry leaders, indicating that the diffusion of information within an industry is stronger when the announcer is an industry leader. Moreover, Desir (2010) finds that the negative price reaction of nonannouncing firms to a firm's announcement of class action securities litigation is greater when the announcing firm is an industry leader. He also finds that the probability of a subsequent disclosure by nonannouncing firms in response to the initial announcer's disclosure is greater when the initial announcer is an industry leader. In a recent paper Bratten et al (2012) indicate that subsequently announcing firms are less likely to manage earnings upwards (or more likely to manage earnings downwards) when industry leaders' earnings announcements indicate bad news.

While the analysis of confirmatory effects due to previously announced industry leaders' earnings news is beyond the scope of this dissertation, I test for robustness of my primary results when previous earnings announcements by industry leaders are excluded

in determining whether a firm's earnings surprise is confirmatory or contradictory. Results of these tests are presented in Table 7.[21]

[Insert Table 7 here]

First, I follow Bratten et al (2012) and define an industry leader as the first large firm to announce earnings for each industry-quarter. A firm is termed "large" if its market capitalization at the end of the previous quarter is in the top quartile of its industry. Table 7, Panel A reports the results of Models (3) and (4) when the industry leader, defined in the above manner is excluded in determining whether a firm's earnings is confirmatory or not. These results indicate that the findings of a confirmation premium is not affected by this exclusion. The interaction coefficient of *Confirm*Surprise* continues to be positive and significant [Model (3): $\beta_3 = 0.3871$, p = 0.01, Model (4): $\beta_3 = 0.3862$, p = 0.02].

Next, I define an industry leader as any large firm that announced earnings prior to the firm in contention where large firm is defined as earlier and exclude all these large firms in determining whether a firm's earnings is confirmatory. Results for Models (3) and (4) under this criteria are presented in Table 7, Panel B. Yet again, the interaction coefficient of *Confirm*Surprise* remains positive and significant [Model (3): $\beta_3 = 0.2065$, p = 0.04, Model (4): $\beta_3 = 0.1819$, p = 0.05] indicating that the findings are not sensitive to the exclusion of previously announcing industry leaders in determining whether the firm's earnings is confirmatory or not.

[21] Note that only full sample results are presented. Earlier inferences remain unchanged for subsamples of firms with nonnegative and negative earnings surprises as well.

6.3 Abnormal Return Opportunities Due to Market Overreaction to Confirmatory Earnings with Negative Surprises

When interpreted together, the results for H1 and H2 suggest that the confirmation premium observed on confirmatory nonnegative earnings surprises is a rational response to their higher persistence. On the other hand, despite their lower persistence, no confirmation discount is observed for firms with confirmatory negative earnings surprises, suggesting that the market may be overreacting to negative earnings surprises that are confirmatory. If this indeed is the case, and if this seeming inefficiency gets corrected in subsequent periods, a hedge strategy of buying and holding firms with confirmatory negative earnings surprises while short selling those with contradictory negative earnings surprises should create abnormal return opportunities. Table 8 reports results for such an investment strategy.

Table 8 shows the abnormal returns generated by simultaneously buying and holding an equally weighted portfolio of firms with confirmatory earnings while short selling an equally weighted portfolio of contradictory earnings for different periods of time ranging from 3 months to 2 years. The holding period starts two days after the firm's earnings announcement. While my focus is on the portfolio generated with firms having negative earnings surprises, returns generated from a portfolio of firms with nonnegative earnings surprises too is presented for comparison.

[Insert Table 8 here]

The first two columns of Table 8 report the abnormal returns on the nonnegative earnings surprise firm portfolio. None of the results are statistically different from zero,

indicating no mispricing with respect to firms with confirmatory versus contradictory nonnegative earnings surprises. In contrast, results for firms with negative earnings surprises, reported in the last two columns of Table 8, indicate that buying and holding firms with confirmatory earnings surprises while short selling those with contradictory surprises does indeed generate abnormal returns. While the statistical significance of returns over shorter holding periods are somewhat weak, there is strong evidence of excess returns on holding periods of 1 and 2 years. Executing the above mentioned investment strategy on firms with negative earnings surprises generates an annual abnormal return of nearly 3 percent ($p<0.03$). The corresponding return over a two year investment horizon is 4.7 percent ($p<0.01$). These results corroborate the earlier suggestion that the market is not fully efficient in realizing the lower persistence of confirmatory earnings with negative surprises in that it overreacts to such earnings.

CHAPTER 7: CONCLUSIONS AND FUTURE DIRECTIONS

The informativeness of a firm's financial reports in the presence of other information is a question of considerable academic and policy interest. Whereas other timelier information sources can potentially diminish the value relevance of a firm's financial statements, a large body of literature suggests that financial statements have clearly retained value relevance over time. Whether and how the informativeness of news content in a firm's financial statements is affected by the presence of other information sources, however, has to date been an inadequately explored issue. This dissertation addresses this problem empirically by examining whether the market response to a firm's earnings surprise is a function of the firm's earnings news confirming or contradicting the previous earnings announcements of other industry members.

The empirical results show that the market attaches a confirmation premium to nonnegative earnings with confirmatory surprises, which subsequent tests suggest is a rational response to these earnings' higher persistence. Earnings with negative confirmatory surprises, however, seem less persistent than those with contradictory surprises, but the market does not seem to be responding to negative surprises based on whether or not they are confirmatory. An investment strategy designed to exploit this seeming inefficiency generates annual (2 year) abnormal returns of 3 percent (4.7 percent).

Further tests reveal that the confirmation premium attached to nonnegative

earnings surprises is greater for growth firms when compared with value firms, indicating that how industry-wide trends affect firm performance is more important in valuing growth firms. The presence of the confirmation premium is robust to the exclusion of industry leaders in determining the confirmatory versus contradictory nature of a firm's earnings. The findings of this study enhance our understanding of how the market impounds a firm's earnings information into its stock prices in the presence of information from other sources that may confirm or contradict it.

The findings also point to valuable avenues for further research. For example, because earnings related intraindustry information transfers are not the only information source that may condition the market reaction to a firm's earnings, future investigation might extend this current study to consider other information sources. It would also be interesting to assess whether and how the market adjusts the stock prices of early announcers when the earnings news of late announcers confirms or contradicts these prior announcements (i.e., the reverse of the effect studied here). Likewise, the finding that earnings with nonnegative confirmatory surprises are more persistent and negative confirmatory surprises less persistent than earnings with contradictory surprises could be extended by identifying the reasons for such asymmetric behavior. One possibility is that the accounting conservatism that makes bad news less persistent (Basu 1997) manifests itself to a greater degree in recognition of industry-wide unfavorable events than of firm-specific events, thereby reducing the persistence of confirmatory earnings with negative surprises relative to contradictory earnings.

Finally, given that the findings of this study reveal that the valuation consequences of earnings news differ depending on the news of already announced

industry members, it will be interesting to explore whether firm managers strategically respond to this phenomenon. A recent paper by Bratten et al (2012) indicates that when an industry leader announces bad news subsequent firms are less likely to manage earnings upwards. Questions such as whether firms are more likely to manage earnings upwards when early announcing industry members report good news and firms are likely to strategically alter the timing of their earnings releases based on their expectations of peer performance remain unanswered and direct towards fruitful research opportunities.

APPENDIX A

Information Transfer-Induced Discrepancies Between Analyst Estimates and Market Expectations and the False Appearance of Confirmation Premiums/Discounts

The scenario outlined in Table A1, corresponds to a case in which intraindustry information transfers are positive on average (the industry-wide commonalities effect) and the information content of firm B's EPS announcement confirms that of firm A (i.e., B also reports a positive earnings surprise). It is based on the following assumptions:

Given two firms, A and B, in one industry, A announces earnings first ($1.20) followed by B. Prior to A's earnings announcement, analysts forecast that both A and B will make $1 in EPS for the period. Since the earnings announcements occur in close proximity, analysts do not revise B's forecast following A's announcement, and the magnitude of the market reaction to B's own earnings news does not differ systematically depending on the nature of previously announced earnings news in the industry (A's). Hence, a well-specified model should fail to reject H1.

B's earnings surprise is capitalized into the share price at a multiple of 10 (i.e., the "true" ERC for B is 10). For convenience, I assume that when A announces earnings of $1.20 (a $0.20 positive surprise), the market's expectation of B's earnings will rise by $0.10 to $1.10 and B's own EPS will be $1.15.

TABLE A1 Case 1			
	Firm A		Firm B
Analysts' EPS estimate	$1.00		$1.00
A's actual EPS	$1.20		
Revised market expectation for B			$1.10
B's actual EPS			$1.15
'True" news of B's EPS		= $1.15 - $1.10	= $0.05
'True" ERC (by assumption)			= 10
Price change to B because of earnings announcement		= $0.05 x 10	= $0.50
Observed "news" of B's earning when the analyst forecast proxies market		= $1.15 - $1.00	= $0.15
Observed ERC		= $0.50 / $0.15	= 3.33

As is apparent from the table, the estimated ERC of 3.33 is understated in comparison to the true ERC of 10. In other words, in this scenario of positive information transfer effects and firm earnings that confirm those previously announced by industry members, the disparity between analyst estimates and true market expectations could lead the researcher to erroneously conclude the presence of a confirmation discount. Conversely, when information transfer effects are positive and a firm's own earnings news contradicts that previously announced by industry members, it could create the erroneous appearance of a contradiction premium. Likewise, when information transfer effects are systematically negative, it could create either a false confirmation premium or a contradiction discount. Hence, model specifications that fail to address the potential systematic disparities between analyst estimates and true market expectations can lead to erroneous rejection of H1A and B.

APPENDIX B

Extended Models to Control for Changes in Market Expectations Between the Most Recent Analyst Forecast and the Earnings Announcement

Model (a) is identical to Model (2) presented in Section III:

$$CAR_{it} = \alpha_0 + \alpha_1 Confirm_{it} + \alpha_2 Surprise_{it} + \alpha_3 Confirm_{it} * Surprise_{it} + \alpha_j X_{it} * Surprise_{it} + \alpha_k X_{it} + \varepsilon_{it} \quad \text{(a)}$$

where $Surprise = A - F^{ana}$, A represents actual earnings per share, and F^{ana} represents the most recent analyst forecast. F^{ana}, however, also measures the true market expectation with error if information transfers that alter expectations occur between this forecast date and the date of the earnings announcement. Therefore, a conceptual representation of true earnings surprise would be

$$Surprise^{true} = A - F^{rev},$$

where F^{rev} is the market's true expectation of earnings after revising for the information events described above. Hence, a more accurate specification of Model (a) would be

$$CAR_{it} = \chi_0 + \chi_1 Confirm_{it} + \chi_2 \left(A_{it} - F_{it}^{rev}\right) + \chi_3 Confirm_{it} * \left(A_{it} - F_{it}^{rev}\right) + \chi_j X_{it} * \left(A_{it} - F_{it}^{rev}\right) + \chi_k X_{it} + \varepsilon_{it} \quad \text{(b)}$$

Although F^{rev} is unobservable, if the revised market expectation is assumed to be a linear function of the most recent analyst forecast and the cumulative abnormal return of the stock since this forecast but prior to the earnings announcement, then

$$F_{it}^{rev} = F_{it}^{ana} + \theta CAR'_{it} \tag{c}$$

where, *CAR'* is the size-adjusted cumulative abnormal return from the day after the most recent analyst forecast to the day before the earnings announcement.

Now, Model (b) can be rewritten as

$$CAR_{it} = \chi_0 + \chi_1 Confirm_{it} + \chi_2 \left(A_{it} - F_{it}^{ana} - \theta CAR'_{it}\right) + \chi_3 Confirm_{it} * \left(A_{it} - F_{it}^{ana} - \theta CAR'_{it}\right) + \chi_j X_{it} * \left(A_{it} - F_{it}^{ana} - \theta CAR'_{it}\right) + \chi_k X_{it} + \varepsilon_{it} \tag{d}$$

where χ_3 is the coefficient of primary interest.

Rearranging the terms, Model (d) can be given as

$$CAR_{it} = \chi_0 + \chi_1 Confirm_{it} + \chi_2 \left(A_{it} - F_{it}^{ana}\right) + \chi_3 Confirm_{it} * \left(A_{it} - F_{it}^{ana}\right) - \chi_2 \theta CAR'_{it} - \chi_3 \theta Confirm_{it} * CAR'_{it} + \chi_j X_{k,it} * \left(A_{it} - F_{it}^{ana}\right) - \chi_j \theta X_{it} * CAR'_{it} + \chi_k X_{it} + \varepsilon_{it} \tag{e}$$

It is then possible to formulate an extended Model (1) that controls for changes in market expectations since the most recent analyst forecast:

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \beta_j X_{it} * Surprise_{it} + \beta_k X_{it} * CAR'_{it} + \beta_l X_{it} + \varepsilon_{it} \tag{f}$$

REFERENCES

Abarbanell, J. S., and V. L. Bernard. 1992. Tests of Analysts' Overreaction/Underreaction to Earnings Information as an Explanation for Anomalous Stock Price Behavior. *The Journal of Finance* 47(3): 1181.

Ali, A. 1994. The incremental information content of earnings, working capital from operations, and cash flows. *Journal of Accounting Research* 32(1): 61.

_____, and P. Zarowin. 1992. The role of earnings levels in annual earnings-returns studies. *Journal of Accounting Research* 30(2): 286.

Amir, E., and B. Lev. 1996. Value-relevance of nonfinancial information: the wireless communications industry. *Journal of Accounting and Economics* 22, 3–30.

Anderson, N. H. and A. Jacobson. 1965. Effect of Stimulus Inconsistency and Discounting Instructions in Personality Impression Formation. *Journal of Personality and Social Psychology* 2(4): 531-539.

Ashley, J. 1962. Stock prices and changes in earnings and dividends: Some empirical results. *Journal of Political Economy* 70 (February): 82-85.

Baginski, S. P. 1987. Intraindustry Information Transfers Associated with Management Forecasts of Earnings. *Journal of Accounting Research 25*(2): 196.

Ball, R., and P. Brown. 1968. An empirical evaluation of accounting income numbers. *Journal of Accounting Research* 6: 159–177.

Ball, R., and S. Kothari. 1991. Security returns around earnings announcements. *The Accounting Review* 66, 718–738.

Bartov, E., D. Givoly, and C. Hayn. 2002. The rewards to meeting or beating earnings expectations. *Journal of Accounting & Economics* 33(2): 173-204.

Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24(1): 3-37.

Bedford, N. 1957. Accounting measurements of economic concepts. *The Journal of Accountancy* 103(May): 56-62.

Benston, G. 1967. Published corporate accounting data and stock prices. *Empirical Research in Accounting: Selected Studies, 1967, Supplement to Journal of Accounting Research* 1-14: 22-54.

Bernard, V., 1992. Stock price reactions to earnings announcements In: Thaler, R. (Ed.), *Advances in Behavioral Finance.* Russell Sage Foundation, New York, pp. 303-340.

_____, and J. K. Thomas. 1989. Post-Earnings-Announcement Drift: Delayed Price Response or Risk Premium? *Journal of Accounting Research:* 27, 1.

_____, and _____. 1990. Evidence That Stock Prices Do Not Fully Reflect the Implications of Current Earnings for Future Earnings. *Journal of Accounting & Economics* 13(4): 305.

Bowen, R. M., R. P. Castanias and L. A. Daley. 1983. Intra-Industry Effects of the Accident at Three Mile Island. *Journal of Financial and Quantitative Analysis* 18(1): 87.

Bratten, B., J. L. Payne, and W. B. Thomas. 2012. Earnings Management: Do Firms Play "Follow the Leader"? Working Paper, University of Kentucky, Lexington, KY, and University of Oklahoma, Norman, OK.

Brown, L. D., R. L. Hagerman, P. A. Griffin, and M. E. Zmijewski. 1987. An Evaluation of Alternative Proxies for the Market's Assessment of Unexpected Earnings. *Journal of Accounting & Economics* 9(2): 159.

Brown, L. D., and K. J. Kim. 1991. Timely aggregate analysts' forecasts as better proxies for market earnings expectations. *Journal of Accounting Research* 29 (2): 382-385.

Cheng, C. S. A., C. Liu, and T. F. Schaefer. 1996. Earnings permanence and the incremental information content of cash flows from operations. *Journal of Accounting Research* 34(1): 173.

Chopra, N., J. Lakonishok, and J. R. Ritter. 1992. Measuring Abnormal Performance: Do Stocks Overreact? *Journal of Financial Economics* 31(2): 235.

Clinch, G. J., and N. A. Sinclair. 1987. Intra-Industry Information Releases: A Recursive Systems Approach. *Journal of Accounting and Economics* 9(1): 89.

Collins, D. W., and S. P. Kothari. 1989. An Analysis of Intertemporal and Cross-Sectional Determinants of Earnings Response Coefficients. *Journal of Accounting and Economics* 11(2,3): 143.

DeBondt, W., and R. Thaler. 1985. Does The Stock Market Overreact? *The Journal of Finance* 40(3): 793.

DeBondt, W., and R. Thaler. 1987. Further Evidence on Investor Overreaction and Stock Market Seasonality. *The Journal of Finance* 42(3): 557.

Desir, R. 2010. How Do Managers of Non-Announcing Firms Respond to Intra-Industry Information Transfers? Working paper. Colorado State University, Fort Collins, CO.

Easton, P., G. Gao, and P. Gao. 2010. Pre-Earnings Announcement Drift. Working Paper. University of Notre Dame.

Easton, P. D., and M. E. Zmijewski. 1989. Cross-Sectional Variation in the Stock Market Response to Accounting Earnings Announcements. *Journal of Accounting and Economics* 11(2,3): 117.

Ely, K. M., and V. Mande. 1996. The interdependent use of earnings and dividends in financial analysts' earnings forecasts. *Contemporary Accounting Research* 13(2): 435.

Ertimur Y., J. Livnat, and M. Martikainen. 2003. Differential Market Reactions to Revenue and Expense Surprises. *Review of Accounting Studies* 8(2-3): 185-211.

Erwin, R., and J. Miller. 1998. The intra-industry effects of open market share repurchase: Contagion or competitive? *Journal of Financial Research* 21: 389-406.

Fama, E., and M. Miller. 1972. *The Theory of Finance*. Dryden Press, Hinsdale, IL.

Feltham, G., and J. Ohlson. 1995. Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research* 11: 689–731.

Ferris, S. P., N. Jayaraman, and A. K. Makhija. 1997. The response of competitors to announcements of bankruptcy: An empirical examination of contagion and competitive effects. *Journal of Corporate Finance* 3(4): 367-395.

Financial Accounting Standards Board (FASB). 2010. *Statement of financial accounting concepts No.8: Conceptual framework for financial reporting*. Stamford, CT: FASB.

Fitzpatrick, D. 2011. J.P. Morgan Results Put Spotlight On Rivals. *Wall Street Journal* (July 15): C.1.

Foster, G. 1981. Intra-industry information transfers associated with earnings releases. *Journal of Accounting and Economics 3:* 201.

Freeman, R., and S. Tse. 1989. The Multiperiod Information Content of Accounting Earnings: Confirmations and Contradictions of Previous Earnings Reports. *Journal of Accounting Research* 27: 49.

_____, and _____. 1992a. An Earnings Prediction Approach to Examining Intercompany Information Transfers. *Journal of Accounting and Economics* 15(4): 509.

_____, and _____. 1992b. A nonlinear model of security price responses to unexpected earnings. *Journal of Accounting Research* 30(2): 185.

Frost, C. A. 1995. Intraindustry Information Transfer: An Analysis of Research Methods and Additional Evidence. *Review Of Quantitative Finance & Accounting* 5(2): 111-126.

Gigler, F. and T. Hemmer. 1998. On the frequency, quality, and informational role of mandatory financial reports. *Journal of Accounting Research: Studies on Enhancing the Financial Reporting Model* 36: 117-147.

Gleason C., N. T. Jenkins and W. B. Johnson. 2008. The contagion effects of accounting restatements. *The Accounting Review* 83: 83-110.

Han, J. C. Y., and J. J. Wild. 1990. Unexpected Earnings and Intraindustry Information Transfers: Further Evidence. *Journal of Accounting Research 28*(1): 211.

Han, J. C. Y., J. J. Wild, and K. Ramesh. 1989. Managers' Earnings Forecasts and Intra-Industry Information Transfers. *Journal of Accounting and Economics* 11(1): 3.

Hardouvelis, G. A. 1987. Macroeconomic Information and Stock Prices. *Journal of Economics and Business* 39(2): 131.

Hayn, C. 1995. The information content of losses. *Journal of Accounting and Economics* 20(2): 125.

Hou K. 2007. Industry Information Diffusion and the Lead-lag Effect in Stock Returns. *The Review of Financial Studies* 20(4): 1113.

Hovakimian, A., and E. Saenyasiri. 2010. Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation. *Financial Analysts Journal 66*(4): 96-107.

Jaggi, B. 1978. A Note on the Information Content of Corporate Annual Earnings Forecasts. *The Accounting Review* 53(4): 961.

Joh, G. and C. J. Lee. 1992. Stock Price Response to Accounting Information in Oligopoly. *The Journal of Business* 65(3): 451.

Kane, A., Y. K. Lee, and A. Marcus. 1984. Earnings and Dividend Announcements: Is There a Corroboration Effect? *The Journal of Finance* 39(4): 1091.

Kasznik R., and M. F McNichols. 2002. Does meeting earnings expectations matter? Evidence from analyst forecast revisions and share prices. *Journal of Accounting Research* 40(3): 727-759.

Kim, Y., M. Lacina, and M. Park. 2008. Positive and Negative Information Transfers from Management Forecasts. *Journal of Accounting Research 46*(4): 885-908.

Kormendi, R., and R. Lipe. 1987. Earnings Innovations, Earnings Persistence, and Stock Returns. *The Journal of Business* 60(3): 323.

Lang, M., and R. Lundholm. 1996. The relation between security returns, firm earnings, and industry earnings. *Contemporary Accounting Research* 13(2): 607.

Lang, L. and R. Stulz. 1992. Contagion and competitive intra-industry effects of bankruptcy announcements: An empirical analysis. *Journal of Financial Economics* 32: 45-60.

Laux, P., L. T. Starks and P. S. Yoon. 1998. The relative importance of competition and contagion in intra-industry information transfers: An investigation of dividend announcements. *Financial Management* 27 (Autumn): 5-16.

Lipe, R. C. 1986. The Information Contained in the Components of Earnings. *Journal of Accounting Research* 24: 37.

Lopez T., and L. Rees. 2002. The effect of beating and missing analysts' forecasts on the information content of unexpected earnings. *Journal of Accounting, Auditing & Finance* 17(2): 155-184.

O'Brien, P. C. 1988. Analysts' Forecasts as Earnings Expectations. *Journal of Accounting and Economics 10*(1): 53.

Ohlson, J. 1995. Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research* 11: 661–687.

Ou, J. A., and S. H. Penman. 1989. Accounting Measurement, Price-Earnings Ratio, and the Information Content of Security Prices. *Journal of Accounting Research (Supplement)* 27: 111.

Patell, J. M. 1976. Corporate forecasts of earnings per share and stock price behavior –Empirical tests. *Journal of Accounting Research* 14(2): 246.

Pearce, D. K., and V. V. Roley. 1985. Stock Prices and Economic News. *The Journal of Business* 58(1): 49.

Penman, S. H. 1980. An Empirical Investigation of the Voluntary Disclosure of Corporate Earnings Forecasts. *Journal of Accounting Research* 18(1): 132.

Pinello, A.S. 2008. Investors' Differential Reaction to Positive versus Negative Earnings Surprises. *Contemporary Accounting Research* 25(3): 891-920.

Pownall, G., and G. Waymire. 1989. Voluntary Disclosure Choice and Earnings Information Transfer. *Journal of Accounting Research* 27: 85.

Pyo, Y., and S. Lustgarten. 1990. Differential Intra-Industry Information Transfer Associated with Management Earnings Forecasts. *Journal of Accounting & Economics* 13(4): 365.

Ramnath, S. 2002. Investor and analyst reactions to earnings announcements of related firms: An empirical analysis. *Journal of Accounting Research* 40(5): 1351-1376.

Rees, L., and K. Sivaramakrishnan. 2007. The Effect of Meeting or Beating Revenue Forecasts on the Association between Quarterly Returns and Earnings Forecast Errors. *Contemporary Accounting Research* 24(1): 8.

Schipper, K., and L. Vincent. 2003. Earnings quality. *Accounting Horizons* 17: 97.

Sloan, R. G. 1996. Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review* 71(3): 289.

Slovic, P. 1966. Cue consistency and cue utilization in judgment. *American Journal of Psychology* 79: 427–434.

Swaminathan, S., and J. Weintrop. 1991. The Information Content of Earnings, Revenues, and Expenses. *Journal of Accounting Research* 29(2): 418.

Thomas, J., and F. Zhang. 2008. Overreaction to Intra-industry Information Transfers? *Journal of Accounting Research* 46(4): 909-940.

Vincent, L. 1999. The information content of funds from operations (FFO) for real estate investment trusts (REITs). *Journal of Accounting and Economics* 26, 69–104.

Watts, R., J. Zimmerman. 1986. *Positive Accounting Theory*. Prentice-Hall, Englewood Cliffs, NJ.

Wilson, P. 1987. The incremental information content of the accrual and funds components of earnings after controlling for earnings. *The Accounting Review* 62, 293–322.

TABLE 1
Sample Distribution of Confirmatory and Contradictory Earnings News

	Nonnegative	Negative	Total
Confirmatory	25,600 (67.1%)	1,229 (3.2%)	26,828 (70.3%)
Contradictory	2,872 (7.5%)	8,444 (22.1%)	11,317 (29.7%)
Total	28,472 (74.6%)	9,673 (25.4%)	38,145 (100.0%)

(1) The columns indicate whether the earnings surprise confirms or contradicts with earnings news of previously announced industry members. The rows indicate whether the earnings surprise is nonnegative or negative.
(2) Each cell reports the total number of observations belonging to it. The number of observations as a percentage of the total sample is reported within parenthesis.

TABLE 2
Descriptive Statistics

	Number of observations = 38,145				
	Mean	25th Percentile	Median	75th Percentile	Std. Deviation
Earnings surprise (*Surprise*)	0.0012	-0.0002	0.0006	0.0022	0.0053
Size adjusted CAR surrounding earnings announcement (*CAR*)	0.0044	-0.0309	0.0028	0.0404	0.0704
Days from Latest Analyst Estimate to Actual	37.2259	9.0000	23.0000	64.0000	33.6517
Days from Qtr. End to Actual	32.6259	25.000	30.0000	37.0000	11.1789
No. of Previously Announced Industry Members	13.5038	2.0000	6.0000	15.0000	19.2132
CAR from Latest Analyst Estimate to Earnings Announcement (*CAR'*)	0.0094	-0.0395	0.0020	0.0463	0.1184
Total Assets	4670.932	403.060	1193.774	3936.65	9371.083
Market-to-Book Ratio	2.6750	1.4318	2.0846	3.2071	2.0479
Beta	1.1064	0.5594	0.9675	1.5069	0.7610

(1) This Table reports Descriptive statistics for selected variables of interest.
(2) The sample consists of 38,145 quarterly earnings announcements from first quarter of 2001 to second quarter of 2010.
(3) All variable definitions are self-explanatory.

TABLE 3
Tests of Hypothesis 1 – Baseline Models

Model (1):

$$CAR_{it} = \alpha_0 + \alpha_1 Confirm_{it} + \alpha_2 Surprise_{it} + \alpha_3 Confirm_{it} * Surprise_{it} + \varepsilon_{it}$$

Model (2):

$$CAR_{it} = \alpha_0 + \alpha_1 Confirm_{it} + \alpha_2 Surprise_{it} + \alpha_3 Confirm_{it} * Surprise_{it} + \alpha_4 Growth_{it} * Surprise_{it}$$
$$+ \alpha_5 Beta_{it} * Surprise_{it} + \alpha_6 Persistenc\ e_{it} * Surprise_{it} + \alpha_7 Growth_{it} + \alpha_8 Beta_{it} + \alpha_9 Persistenc\ e_{it} + \varepsilon_{it}$$

Panel A: Full Sample

		Model (1)		Model (2)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	α_0	-0.0108	<0.001	-0.0078	<0.001
Confirm	α_1	0.0166	<0.001	0.0155	<0.001
Surprise	α_2	2.3446	<0.001	0.8464	<0.001
Confirm*Surprise	α_3	**0.3867**	**0.008**	**0.4204**	**0.005**
	$\alpha_2 + \alpha_3$	2.7313	<0.001	1.2668	<0.001
<u>*Control Variables*</u>					
*Growth*Surprise*	α_4			0.3747	<0.001
*Beta*Surprise*	α_5			0.3802	<0.001
*Persistence*Surprise*	α_6			1.1758	<0.001
Growth	α_6			-0.0005	0.004
Beta	α_7			-0.0015	0.001
Persistence	α_8			0.0007	0.374
Controls for changes in expectations?		No		No	
No. of Observations		38145		38145	
F-Value		881.62	<0.001	316.05	<0.001
Adj. R-Sq.		0.0648		0.0692	

Panel B: Nonnegative Earnings Surprises

		Model (1)		Model (2)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	α_0	0.0104	<0.001	0.0090	<0.001
Confirm	α_1	-0.0028	0.068	-0.0030	0.054
Surprise	α_2	1.9597	<0.001	0.8897	0.005
Confirm*Surprise	α_3	**0.5597**	**0.047**	**0.5743**	**0.042**
	$\alpha_2 + \alpha_3$	2.5194	<0.001	1.4640	<0.001
<u>*Control Variables*</u>					
*Growth*Surprise*	α_4			0.1953	<0.001
*Beta*Surprise*	α_5			0.2964	0.005
*Persistence*Surprise*	α_6			1.1894	<0.001
Growth	α_6			~0.0000	0.931
Beta	α_7			0.0003	0.585
Persistence	α_8			0.0005	0.639
Controls for changes in expectations?		No		No	
No. of Observations		28472		28472	
F-Value		254.78	<0.001	95.26	<0.001
Adj. R-Sq.		0.0260		0.0289	

Panel C: Negative Earnings Surprises

		Model (1)		Model (2)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	α_0	-0.0229	<0.001	-0.0048	0.026
Confirm	α_1	-0.0012	0.629	-0.0022	0.360
Surprise	α_2	0.7032	<0.001	1.0882	0.002
Confirm*Surprise	α_3	**0.2094**	**0.560**	**0.1330**	**0.712**
	$\alpha_2 + \alpha_3$	0.9125	0.005	1.2211	0.004
<u>*Control Variables*</u>					
*Growth*Surprise*	α_4			0.1097	0.270
*Beta*Surprise*	α_5			-0.2856	0.112
*Persistence*Surprise*	α_6			-0.2077	Ĉ.463
Growth	α_6			-0.0015	<0.000
Beta	α_7			-0.0107	<0.000
Persistence	α_8			-0.0040	0.025
Controls for changes in expectations?		No		No	
No. of Observations		9673		9673	
F-Value		10.41	<0.001	19.01	<0.001
Adj. R-Sq.		0.0029		0.0165	

(1) The sample consists of observations from first quarter of 2001 to second quarter of 2010.
(2) All p-values are based on two-tailed t-tests.
(3) **Variable Definitions**: *CAR* = size adjusted two-day abnormal return [0,+1] surrounding the firms' earnings announcement. *Confirm* = an indicator variable taking the value of 1 if the sign of earnings surprise, measured as the difference between actual and latest analyst forecast, is same as that of at least half the firms of the same industry that has reported earnings for the same quarter previously, and 0 otherwise. *Surprise* = earnings surprise measured as the difference between actual and latest analyst estimate of earnings per share (EPS) scaled by the end of quarter share price. *Growth* = firm's market to book ratio at the end of the quarter. *Beta* = stock beta as reported by Compustat, which is calculated with stock and market returns for a 60 month time period, ending in current month. *Persistence* = an indicator variable taking the value of 1 if earnings are likely predominantly permanent, and 0 otherwise. This variable is constructed following Ou and Penman (1989) and Ali and Zarowin (1992).

TABLE 4
Tests of Hypothesis 1 – Augmented Models

Model (3):

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \varepsilon_{it}$$

Model (4):

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \beta_6 Growth_{it} * Surprise_{it} + \beta_7 Beta_{it} * Surprise_{it} + \beta_8 Persistenc\ e_{it} * Surprise_{it} + \beta_9 Growth_{it} * CAR'_{it} + \beta_{10} Beta_{it} * CAR'_{it} + \beta_{11} Persistenc\ e_{it} * CAR'_{it} + \beta_{12} Growth_{it} + \beta_{13} Beta_{it} + \beta_{14} Persistenc\ e_{it} + \varepsilon_{it}$$

Panel A: Full Sample

		Model (3)		Model (4)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	-0.0107	<0.001	-0.0078	<0.001
Confirm	β_1	0.0168	<0.001	0.0156	<0.001
Surprise	β_2	2.3420	<0.001	0.8478	<0.001
Confirm*Surprise	β_3	**0.4214**	**0.004**	**0.4554**	**0.002**
CAR'	β_4	-0.0047	0.410	-0.0159	0.066
*Confirm*CAR'*	β_5	-0.0132	0.046	-0.0157	0.018
	$\beta_2 + \beta_3$	2.7633	<0.001	1.3032	<0.001
Control Variables					
*Growth*Surprise*	β_6			0.3722	<0.001
*Beta*Surprise*	β_7			0.3826	<0.001
*Persistence*Surprise*	β_8			1.1735	<0.001
*Growth*CAR'*	β_9			0.0026	0.063
*Beta*CAR'*	β_{10}			0.0036	0.311
*Persistence*CAR'*	β_{11}			0.0029	0.634
Growth	β_{12}			-0.0005	0.003
Beta	β_{13}			-0.0015	0.002
Persistence	β_{14}			0.0007	0.399
Controls for changes in expectations?		Yes		Yes	
No. of Observations		38125		38125	
F-Value		533.67	<0.001	205.23	<0.001
Adj. R-Sq.		0.0653		0.0698	

Panel B: Nonnegative Earnings Surprises

		Model (3)		Model (4)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	0.0106	<0.001	0.0092	<0.001
Confirm	β_1	-0.0029	0.066	-0.0030	0.054
Surprise	β_2	1.9778	<0.001	0.8956	0.005
Confirm*Surprise	β_3	**0.5746**	**0.041**	**0.5886**	**0.037**
CAR'	β_4	-0.0225	0.030	0.0035	0.032
*Confirm*CAR'*	β_5	0.0027	0.805	0.0002	0.982
	$\beta_2 + \beta_3$	2.5522	<0.001	1.4842	<0.001
Control Variables					
*Growth*Surprise*	β_6			0.1910	<0.001
*Beta*Surprise*	β_7			0.3114	0.003
*Persistence*Surprise*	β_8			1.1896	<0.001
*Growth*CAR'*	β_9			0.0035	0.032
*Beta*CAR'*	β_{10}			0.0027	0.493
*Persistence*CAR'*	β_{11}			-0.0032	0.645
Growth	β_{12}			~0.0000	0.974
Beta	β_{13}			0.0004	0.561
Persistence	β_{14}			0.0005	0.634
Controls for changes in expectations?		Yes		Yes	
No. of Observations		28457		28457	
F-Value		160.35	<0.001	64.43	<0.001
Adj. R-Sq.		0.072		0.0303	

Panel C: Negative Earnings Surprises

		Model (3)		Model (4)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	-0.0229	<0.001	-0.0049	0.023
Confirm	β_1	-0.0012	0.628	-0.0022	0.362
Surprise	β_2	0.6950	<0.001	1.0854	0.002
Confirm*Surprise	β_3	**0.2163**	**0.547**	**0.1512**	**0.675**
CAR'	β_4	-0.0029	0.660	-0.0102	0.516
*Confirm*CAR'*	β_5	0.0038	0.825	0.0031	0.858
	$\beta_2 + \beta_3$	0.9113	0.005	1.2366	0.004
Control Variables					
*Growth*Surprise*	β_6			0.1086	0.275
*Beta*Surprise*	β_7			-0.2912	0.106
*Persistence*Surprise*	β_8			-0.2016	0.476
*Growth*CAR'*	β_9			~0.0000	0.998
*Beta*CAR'*	β_{10}			-0.0013	0.877
*Persistence*CAR'*	β_{11}			0.0165	0.195
Growth	β_{12}			-0.0015	<0.000
Beta	β_{13}			-0.0106	<0.000
Persistence	β_{14}			-0.0039	0.027
Controls for changes in expectations?		Yes		Yes	
No. of Observations		9668		9668	
F-Value		6.18	<0.001	12.20	<0.001
Adj. R-Sq.		0.0027		0.0174	

(1) The sample consists of observations from first quarter of 2001 to second quarter of 2010.
(2) All p-values are based on two-tailed t-tests.
(3) **Variable Definitions**: *CAR* = size adjusted two-day abnormal return [0,+1] surrounding the firms' earnings announcement. *Confirm* = an indicator variable taking the value of 1 if the sign of earnings surprise, measured as the difference between actual and latest analyst forecast, is same as that of at least half the firms of the same industry that has reported earnings for the same quarter previously, and 0 otherwise. *Surprise* = earnings surprise measured as the difference between actual and latest analyst estimate of earnings per share (EPS) scaled by the end of quarter share price. *CAR'* = size adjusted cumulative abnormal return from the day following the most recent analyst forecast to the day prior to earnings announcement. *Growth* = firm's market to book ratio at the end of the quarter. *Beta* = stock beta as reported by Compustat, which is calculated with stock and market returns for a 60 month time period, ending in current month. *Persistence* = an indicator variable taking the value of 1 if earnings are likely predominantly permanent, and 0 otherwise. This variable is constructed following Ou and Penman (1989) and Ali and Zarowin (1992).

TABLE 5
Tests of Hypothesis 2

Model (5):

$$Earnings_{i,t+n} = \rho_0 + \rho_1 Confirm_{it} + \rho_2 Earnings_{it} + \rho_3 Confirm_{it} * Earnings_{it} + \varepsilon_{it}$$

Panel A: Full Sample

Dependent Variable	*Intercept* ρ_0	*Confirm* ρ_1	*Earnings* ρ_2	***Confirm* Earnings*** ρ_3	$\rho_2 + \rho_3$	No. of Obs.	Adj. R-Sq.
$Earnings_{t+1}$	0.0079	-0.0018	0.6179	**0.0944**	0.7123	37402	0.4019
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+2}$	0.0119	-0.0039	0.4311	**0.1839**	0.6151	36930	0.2534
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+3}$	0.0107	-0.0025	0.4920	**0.1038**	0.5959	36440	0.2609
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+4}$	0.0085	-0.0014	0.5694	**0.0758**	0.6452	34761	0.2954
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+5}$	0.0107	-0.0012	0.4456	**0.0734**	0.5190	33163	0.1853
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+6}$	0.0117	-0.0013	0.3898	**0.0796**	0.4695	31623	0.1540
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+7}$	0.0119	-0.0019	0.3829	**0.0970**	0.4799	30140	0.1483
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+8}$	0.0102	-0.0014	0.4261	**0.1157**	0.5418	28754	0.1897
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		

Panel B: Nonnegative Earnings Surprises

Dependent Variable	*Intercept*	*Confirm*	*Earnings*	***Confirm* Earnings***		No. of Obs.	Adj. R-Sq.
	ρ_0	ρ_1	ρ_2	ρ_3	$\rho_2 + \rho_3$		
$Earnings_{t+1}$	0.0075	-0.0023	0.6362	**0.1070**	0.7432	27935	0.4476
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+2}$	0.0177	-0.0111	0.2111	**0.4541**	0.6651	27603	0.2945
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+3}$	0.0125	-0.0056	0.4187	**0.2210**	0.6397	27246	0.2950
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+4}$	0.0092	-0.0035	0.5686	**0.1271**	0.6958	26026	0.3368
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+5}$	0.0125	-0.0045	0.4221	**0.1476**	0.5697	24867	0.2145
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+6}$	0.0137	-0.0047	0.3542	**0.1625**	0.5166	23723	0.1781
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+7}$	0.0151	-0.0064	0.3011	**0.2250**	0.5262	22596	0.1823
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		
$Earnings_{t+8}$	0.0124	-0.0051	0.3460	**0.2503**	0.5963	21559	0.2130
	(<0.001)	(<0.001)	(<0.001)	**(<0.001)**	(<0.001)		

Panel C: Negative Earnings Surprises

Dependent Variable	*Intercept* ρ_0	*Confirm* ρ_1	*Earnings* ρ_2	***Confirm* Earnings*** ρ_3	$\rho_2 + \rho_3$	No. of Obs.	Adj. R-Sq.
$Earnings_{t+1}$	0.0080 (<0.001)	0.0031 (<0.001)	0.6099 (<0.001)	**-0.1541 (<0.001)**	0.4558 (<0.001)	9467	0.2830
$Earnings_{t+2}$	0.0098 (<0.001)	0.0068 (<0.001)	0.5226 (<0.001)	**-0.3178 (<0.001)**	0.2048 (<0.001)	9327	0.1804
$Earnings_{t+3}$	0.0100 (<0.001)	0.0070 (<0.001)	0.5229 (<0.001)	**-0.2744 (<0.001)**	0.2485 (<0.001)	9194	0.1889
$Earnings_{t+4}$	0.0083 (<0.001)	0.0082 (<0.001)	0.5680 (<0.001)	**-0.3164 (<0.001)**	0.2516 (<0.001)	8735	0.2040
$Earnings_{t+5}$	0.0102 (<0.001)	0.0092 (<0.001)	0.4523 (<0.001)	**-0.3151 (<0.001)**	0.5697 (<0.001)	8296	0.1270
$Earnings_{t+6}$	0.0111 (<0.001)	0.0072 (<0.001)	0.4022 (<0.001)	**-0.2751 (<0.001)**	0.1271 (<0.001)	7900	0.1052
$Earnings_{t+7}$	0.0108 (<0.001)	0.0072 (<0.001)	0.4163 (<0.001)	**-0.2555 (<0.001)**	0.1608 (<0.001)	7544	0.0877
$Earnings_{t+8}$	0.0095 (<0.001)	0.0086 (<0.001)	0.4572 (<0.001)	**-0.2820 (<0.001)**	0.1752 (<0.001)	7195	0.1434

(1) The sample consists of observations from first quarter of 2001 to second quarter of 2010.
(2) The first number each cell reports the coefficient value. P-values are reported in parenthesis.
(3) All p-values are based on two-tailed t-tests.
(4) **Variable Definitions**: *Earnings* = operating income scaled by average total assets. *Confirm* = an indicator variable taking the value of 1 if the sign of earnings surprise, measured as the difference between actual and latest analyst forecast, is same as that of at least half the firms of the same industry that has reported earnings for the same quarter previously, and 0 otherwise.

TABLE 6
Confirmation Premium in Growth versus Value Industries

Model (4):

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \beta_6 Growth_{it} * Surprise_{it} + \beta_7 Beta_{it} * Surprise_{it} + \beta_8 Persistenc\ e_{it} * Surprise_{it} + \beta_9 Growth_{it} * CAR'_{it} + \beta_{10} Beta_{it} * CAR'_{it} + \beta_{11} Persistenc\ e_{it} * CAR'_{it} + \beta_{12} Growth_{it} + \beta_{13} Beta_{it} + \beta_{14} Persistenc\ e_{it} + \varepsilon_{it}$$

Panel A: Full Sample

		Growth Industries		Value Industries	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	-0.0134	<0.001	-0.0041	0.003
Confirm	β_1	0.0194	<0.001	0.0120	<0.001
Surprise	β_2	1.5758	<0.001	0.7592	<0.001
Confirm*Surprise	β_3	**0.8080**	**0.007**	**0.3010**	**0.066**
CAR'	β_4	-0.0126	0.391	-0.0182	0.093
*Confirm*CAR'*	β_5	-0.0196	0.064	-0.0119	0.157
	$\beta_2 + \beta_3$	2.3838	<0.001	1.0603	<0.001
Control Variables					
*Growth*Surprise*	β_6	0.2253	<0.001	0.4444	<0.001
*Beta*Surprise*	β_7	0.0545	0.728	0.4550	<0.001
*Persistence*Surprise*	β_8	1.6082	<0.001	0.8157	<0.001
*Growth*CAR'*	β_9	0.0036	0.051	0.0003	0.930
*Beta*CAR'*	β_{10}	0.0031	0.556	0.0046	0.340
*Persistence*CAR'*	β_{11}	-0.0036	0.694	0.0098	0.226
Growth	β_{12}	-0.0005	0.029	-0.0003	0.460
Beta	β_{13}	-0.0007	0.303	-0.0021	0.001
Persistence	β_{14}	0.0027	0.038	0.0011	0.274
Controls for changes in expectations?		Yes		Yes	
No. of Observations		18773		19352	
F-Value		100.43	<0.001	111.91	<0.001
Adj. R-Sq.		0.0690		0.0743	
P-Value for $\beta_3^{GrowthIndustries} \rangle \beta_3^{ValueIndustries}$		**0.391**			

Panel B: Nonnegative Earnings Surprises

		Growth Industries		Value Industries	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	0.0130	<0.001	0.0063	0.007
Confirm	β_1	-0.0060	0.014	-0.0012	0.528
Surprise	β_2	0.4063	0.538	1.3571	<0.001
Confirm*Surprise	β_3	**1.9142**	**0.001**	**0.0263**	**0.933**
CAR'	β_4	-0.0416	0.074	-0.0220	0.146
*Confirm*CAR'*	β_5	-0.0013	0.947	0.0017	0.896
	$\beta_2 + \beta_3$	2.3205	<0.001	1.3834	<0.001
Control Variables					
*Growth*Surprise*	β_6	0.1357	0.072	0.1123	0.227
*Beta*Surprise*	β_7	-0.0017	0.993	0.3906	0.002
*Persistence*Surprise*	β_8	1.8381	<0.001	0.7326	0.002
*Growth*CAR'*	β_9	0.0048	0.022	0.0002	0.946
*Beta*CAR'*	β_{10}	0.0060	0.285	-0.0002	0.973
*Persistence*CAR'*	β_{11}	-0.0014	0.894	-0.0025	0.786
Growth	β_{12}	-0.0003	0.249	0.0008	0.094
Beta	β_{13}	0.0003	0.714	0.0003	0.686
Persistence	β_{14}	0.0007	0.674	-0.0004	0.758
Controls for changes in expectations?		Yes		Yes	
No. of Observations		14577		13880	
F-Value		33.44	<0.001	35.05	<0.001
Adj. R-Sq.		0.0302		0.0332	
P-Value for $\beta_3^{GrowthIndustries} \rangle \beta_3^{ValueIndustries}$			**0.043**		

Panel C: Negative Earnings Surprises

		Growth Industries		Value Industries	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	-0.0163	<0.001	~0.0000	0.988
Confirm	β_1	-0.0016	0.715	-0.0022	0.441
Surprise	β_2	1.6628	0.035	0.6935	0.085
Confirm*Surprise	β_3	**0.2154**	**0.819**	**0.2092**	**0.577**
CAR'	β_4	0.0405	0.141	-0.0465	0.021
*Confirm*CAR'*	β_5	0.0031	0.922	0.0074	0.714
	$\beta_2 + \beta_3$	1.8782	0.106	0.9027	0.049
Control Variables					
*Growth*Surprise*	β_6	-0.0648	0.635	0.5022	0.006
*Beta*Surprise*	β_7	-0.4184	0.324	-0.2714	0.161
*Persistence*Surprise*	β_8	-0.3424	0.569	-0.2486	0.431
*Growth*CAR'*	β_9	-0.0015	0.692	0.0026	0.677
*Beta*CAR'*	β_{10}	-0.0176	0.167	0.0140	0.189
*Persistence*CAR'*	β_{11}	-0.0176	0.412	0.0389	0.013
Growth	β_{12}	-0.0011	0.066	-0.0006	0.433
Beta	β_{13}	-0.0068	<0.001	-0.0133	<0.001
Persistence	β_{14}	-0.0006	0.850	-0.0056	0.009
Controls for changes in expectations?		Yes		Yes	
No. of Observations		4196		5472	
F-Value		2.09	0.001	12.14	<0.001
Adj. R-Sq.		0.0036		0.0277	
P-Value for $\beta_3^{GrowthIndustries} \rangle \beta_3^{ValueIndustries}$		**0.996**			

(1) The sample consists of observations from first quarter of 2001 to second quarter of 2010.
(2) All p-values are based on two-tailed t-tests.
(3) An industry is defined as a *Growth Industry* if the industry's median market to book ratio in a given period is greater than the industry median market to book ratio across all industries and as a *Value Industry* otherwise.
(4) **Variable Definitions**: *CAR* = size adjusted two-day abnormal return [0,+1] surrounding the firms' earnings announcement. *Confirm* = an indicator variable taking the value of 1 if the sign of earnings surprise, measured as the difference between actual and latest analyst forecast, is same as that of at least half the firms of the same industry that has reported earnings for the same quarter previously, and 0 otherwise. *Surprise* = earnings surprise measured as the difference between actual and latest analyst estimate of earnings per share (EPS) scaled by the end of quarter share price. *CAR'* = size adjusted cumulative abnormal return from the day following the most recent analyst forecast to the day prior to earnings announcement. *Growth* = firm's market to book ratio at the end of the quarter. *Beta* = stock beta

as reported by Compustat, which is calculated with stock and market returns for a 60 month time period, ending in current month. *Persistence* = an indicator variable taking the value of 1 if earnings are likely predominantly permanent, and 0 otherwise. This variable is constructed following Ou and Penman (1989) and Ali and Zarowin (1992).

TABLE 7
Presence of Confirmation Premium when Prior Earnings Announcements by Industry Leaders are Excluded

Model (3):

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \varepsilon_{it}$$

Model (4):

$$CAR_{it} = \beta_0 + \beta_1 Confirm_{it} + \beta_2 Surprise_{it} + \beta_3 Confirm_{it} * Surprise_{it} + \beta_4 CAR'_{it} + \beta_5 Confirm_{it} * CAR'_{it} + \beta_6 Growth_{it} * Surprise_{it} + \beta_7 Beta_{it} * Surprise_{it} + \beta_8 Persistenc\ e_{it} * Surprise_{it} + \beta_9 Growth_{it} * CAR'_{it} + \beta_{10} Beta_{it} * CAR'_{it} + \beta_{11} Persistenc\ e_{it} * CAR'_{it} + \beta_{12} Growth_{it} + \beta_{13} Beta_{it} + \beta_{14} Persistenc\ e_{it} + \varepsilon_{it}$$

Panel A: First Announcing Industry Leader Excluded in Determining Confirmatory versus Contradictory Nature of Earnings

		Model (3)		Model (4)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	-0.0116	<0.001	-0.0090	<0.001
Confirm	β_1	0.0179	<0.001	0.0168	<0.001
Surprise	β_2	2.2356	<0.001	0.6827	<0.001
Confirm*Surprise	β_3	**0.3871**	**0.014**	**0.3862**	**0.016**
CAR'	β_4	-0.0082	0.190	-0.0188	0.048
*Confirm*CAR'*	β_5	-0.0077	0.290	-0.0115	0.116
	$\beta_2 + \beta_3$	2.6227	<0.001	1.2544	<0.001
Control Variables					
*Growth*Surprise*	β_6			0.3508	<0.001
*Beta*Surprise*	β_7			0.4589	<0.001
*Persistence*Surprise*	β_8			1.2297	<0.001
*Growth*CAR'*	β_9			0.0036	0.021
*Beta*CAR'*	β_{10}			0.0023	0.549
*Persistence*CAR'*	β_{11}			0.0024	0.710
Growth	β_{12}			-0.0007	0.001
Beta	β_{13}			-0.0012	0.021
Persistence	β_{14}			0.0013	0.145
Controls for changes in expectations?		Yes		Yes	
No. of Observations		35980		35980	

F-Value	439.19	<0.001	187.73	<0.001
Adj. R-Sq.	0.0653		0.0677	

Panel B: All the Prior Announcing Industry Leaders Excluded in Determining Confirmatory versus Contradictory Nature of Earnings

		Model (3)		Model (4)	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
Intercept	β_0	-0.0092	<0.001	-0.0067	<0.001
Confirm	β_1	0.0151	<0.001	0.0141	<0.001
Surprise	β_2	2.5222	<0.001	1.0725	<0.001
Confirm*Surprise	β_3	**0.2065**	**0.038**	**0.1819**	**0.054**
CAR'	β_4	-0.0006	0.912	-0.0138	0.110
*Confirm*CAR'*	β_5	-0.0191	0.004	-0.0221	0.001
	$\beta_2 + \beta_3$	2.7287	<0.001	1.2544	<0.001
<u>*Control Variables*</u>					
*Growth*Surprise*	β_6			0.3832	<0.001
*Beta*Surprise*	β_7			0.3642	<0.001
*Persistence*Surprise*	β_8			1.1661	<0.001
*Growth*CAR'*	β_9			0.0028	0.050
*Beta*CAR'*	β_{10}			0.0041	0.257
*Persistence*CAR'*	β_{11}			0.0045	0.468
Growth	β_{12}			-0.0005	0.013
Beta	β_{13}			-0.0014	0.003
Persistence	β_{14}			0.0009	0.288
Controls for changes in expectations?		Yes		Yes	
No. of Observations		31347		31347	
F-Value		485.12	<0.001	187.73	<0.001
Adj. R-Sq.		0.0630		0.0677	

(1) The sample consists of observations from first quarter of 2001 to second quarter of 2010.
(2) All p-values are based on two-tailed t-tests.
(3) A firm is defined as an industry leader if the market capitalization of the firm at the end of the previous quarter was in the top quartile of the firm's industry.
(4) **Variable Definitions**: *CAR* = size adjusted two-day abnormal return [0,+1] surrounding the firms' earnings announcement. *Confirm* = an indicator variable taking the value of 1 if the sign of earnings surprise, measured as the difference between actual and latest analyst forecast, is same as that of at least half the firms of the same industry that has reported earnings for the same quarter previously, and 0 otherwise. *Surprise* = earnings surprise measured as the difference between actual and latest analyst estimate of earnings per share (EPS) scaled by the end of quarter share price. *CAR'* = size adjusted cumulative abnormal return from the day following the most recent analyst forecast to the day prior to earnings announcement. *Growth* = firm's market to book ratio at the end of the quarter. *Beta* = stock beta as reported by Compustat, which is calculated with stock and market returns for a 60 month time period,

ending in current month. *Persistence* = an indicator variable taking the value of 1 if earnings are likely predominantly permanent, and 0 otherwise. This variable is constructed following Ou and Penman (1989) and Ali and Zarowin (1992).

TABLE 8

Equal Weighted Abnormal Returns to a Hedge Portfolio Strategy of Simultaneously Buying and Holding Firms with Confirmatory Earnings Surprises while Short Selling Firms with Contradictory Earnings Surprises

	Firms with Nonnegative Earnings Surprises		Firms with Negative Earnings Surprises	
	Abnormal Returns	p-value	Abnormal Returns	p-value
3 Month	0.0063	0.147	0.0030	0.656
6 Month	-0.0007	0.904	0.0172	0.068
9 Month	-0.0086	0.241	0.0191	0.102
1 Year	-0.0123	0.142	0.0298	0.026
2 Year	-0.0036	0.747	0.0466	0.007

(1) This table depicts the equal weighted market adjusted abnormal returns generated from a hedge portfolio strategy of simultaneously buying and holding firms with confirmatory earnings surprises while short selling firms with contradictory earnings surprises.
(2) The return accumulation starts two days after the firm's earnings announcement.
(3) The sample consists of observations from first quarter of 2001 to second quarter of 2010.
(4) All p-values are based on two-tailed t-tests.